

BUTTERFLIES OF INDIA

BY

CHAS. B. ANTRAM, F.E.S.

With illustrations of practically every species for easy identification.

By the Author.

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PREFACE.

THE chief object of this work has been to show an illustration of every species described excepting a few only which very closely resemble one another, with a view to placing in the hands of the uninitiated (besides those who have already some knowledge of the subject) a means whereby easy identification of the different forms can be made. In addition to the illustrations short descriptions as to colouring, etc., are given and technicalities have been avoided as far as possible in order that the beginner and those with little previous knowledge of Entomology may find everything of plain sailing. At the same time, in order to keep down the price of the volume and so bring it within the scope of everyone's pocket it has not been possible to figure these brilliant creatures in colour. The black and white illustrations, however, will be found sufficient for the purpose of easy identification.

While the "Blues and Skippers" have not been included, every known species of the remaining families, as also those forms of *Parnassius* and other genera occurring across the Indian Frontier in Thibet, are described. Many new species have been recently discovered and their inclusion in this work brings their cataloguing up to date. For the present this first volume is published but it is hoped that a second volume dealing with the "Blues and Skippers" will follow in due course.

In the early pages will be found introductory notes as to the terminology used throughout this work and also on the collecting and preservation of butterflies in India advocating a ready and inexpensive method to those interested in this most delightful hobby of keeping their collections in a practical manner.

Living as I have been compelled in the Tea districts of North-East India, I have not had ready access to museum collections

except on rare occasions and in this present work the material available to which reference could be made has not been large. Besides the use of my own notes and private collection which I have been able to put together during a period of over 20 years collecting in India and by the aid of native collectors in almost all parts of India, I have received much kind help from my Entomological friends and the following works have been my chief source of reference:—

“The Butterflies of India, Burmah and Ceylon” by Messrs. Marshall and deNicéville; Bingham’s “Butterflies,” Fauna of British India Series; Moore’s “Lepidoptera Indica” and “The Macrolepidoptera of the world,” Fauna Indoaustralica by Dr. Adalbert Seitz. My grateful thanks are especially due to the authorities of the Bombay Natural History Society for help given me.

It is to be regretted that the illustrations are not in colour but at the same time it has been very laborious work even to draw them for reproduction in black and white. While some of the illustrations, specially at the beginning of the book, have not reproduced very satisfactorily I must acknowledge that the fault is mine, in that my originals had been drawn some years ago and in keeping had become rubbed; in some instances it has been necessary to draw them again.

My grateful thanks are due to Mr. M. C. McLeod for his most valued financial assistance in the publication of this work.

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CHAS. B. ANTRAM.

ON THE COLLECTING AND PRESERVATION OF BUTTERFLIES IN INDIA.

WHILE no doubt one would prefer to set out the wings of butterflies and arrange them in show cases so that their great beauty may be admired, it is perhaps not advisable to do so in India, without special facilities such as would obtain in a museum, if one's collection is to be kept in good order indefinitely, nor is it everyone who can afford to put up his collection in this way, as apart from the time and labour required to set up the insects the cost of a large number of specially made air-tight store boxes or glass topped show cases, paraphernalia for setting, and almirahs for storing the boxes, which would be required, will not be a small item of expenditure. Special arrangements would also be necessary for keeping the collection in a thoroughly dry room. It is difficult to overcome this in India, where during the rains everything is damaged by damp, and however much care may be taken the specimens will become mouldy and lose their freshness in the course of time. Further, if one has not the time oneself to keep set specimens in good condition there would be the additional expense of employing someone to do the work.

In a country where one is very frequently shifting about, to pack and transfer a large collection of store boxes is not only an expense but great risk is run of damage to the insects during transit by rail or otherwise.

An alternative method, as given below, is one that I thoroughly recommend as proving most satisfactory, in that specimens stored by me 20 years ago are to-day in as good condition, brilliancy and freshness as on the day they were caught and my large collection takes up very little space while costing practically nothing to keep in perfect condition and will travel safely anywhere.

To begin with, it will be necessary to procure a number of tins with tight and well fitting lids, from 9 to 10 inches long, 8 inches wide

and 4 inches deep; the width and depth being the maximum dimensions required for boxing the largest sized specimen of the Indian butterflies. Having captured your butterfly and killed it by carefully pinching its thorax (the cyanide bottle is not recommended for killing butterflies, except for the smaller species, such as the *Lycænidæ*, etc.) place it with the upperside of the wings closed back to back in a triangular paper envelope as shown on Page xiv., figs. 3 and 4. The paper used in making the envelope should be of medium weight but of sufficient stiffness to protect the insect and to bear handling.

To prepare the envelope cut to the shape as shown on Page xiv., fig. 1, i.e., cut a little longer than broad so as to leave sufficient to turn over at the two sides. Fold the paper as in fig. 2, and turn over the two flaps, the left flap over and the right flap under. The result will be as in fig. 3, the last process being to cut off the point of the two overlapping flaps straight with the base of the envelope, or to turn them over. To turn them over, however, is not so neat as they will never lie flat.

The butterfly should be placed in the envelope as shown on Page xiv., fig. 4, i.e., with the costal border of the forewings resting on the base of the envelope and with the antennæ folded back to lie along the costa, in order chiefly to protect the antennæ and because the insect placed in this position does not require so large an envelope as when placed (wrongly) with the body horizontal with the base of the envelope.

This method unfortunately exposes only the underside of the butterfly, but the upperside can be seen by inserting, say, the blade of a knife between the wings and by slightly separating them.

A number of butterflies of the same species and sex can be tied up into packets of 5 or more with thread and a packet thus made up can be almost roughly handled and thrown about while a single envelope containing a butterfly has to be very carefully handled. It is advisable never to put more than one butterfly into an envelope. On the outside of the envelope and on the left hand flap of same the

name of the butterfly, sex, locality and date of capture should be written. Writing this in is best done before the insect is placed in the cover. Different sized paper covers should be made to accommodate butterflies of various sizes and it is not advisable to place a small butterfly in an envelope too large for it as it will shift and be damaged.

In addition to the air-tight tins in which the butterflies, when dry, are finally stored, it is necessary to keep a larger box in which the newly caught and papered butterflies can temporarily be kept for the purpose of drying them. The "hot case," as commonly found in all households in India, is the easiest and quickest method for use in drying. When thoroughly dry they can be placed in the air-tight tins in their proper allotted order and if these tins are kept regularly supplied with camphor and naphthalin no harm can come to the contents. After a time it may be found necessary to change some of the paper covers as these become stained owing to the grease in the bodies of some species.

At any time that the owner of such a collection of unset and papered butterflies wishes to set them out and expose to view in cabinets or show cases they can easily be relaxed. Dried butterflies kept in papers for any length of time, when relaxed, can be almost as easily set as on the day of their capture. Relaxing may be done by placing a few butterflies at a time in a closed tin which has at the bottom wet sand or blotting paper. According to the size of the insect, relaxation will be complete within 12 to 24 hours but care must be taken to fully relax before setting.

The tins set apart for the dried butterflies can be arranged neatly on "pigeon-hole" shelves, each tin bearing a label to denote its contents in the order of the different families. By this means reference can quickly be made to any particular butterfly in the collection.

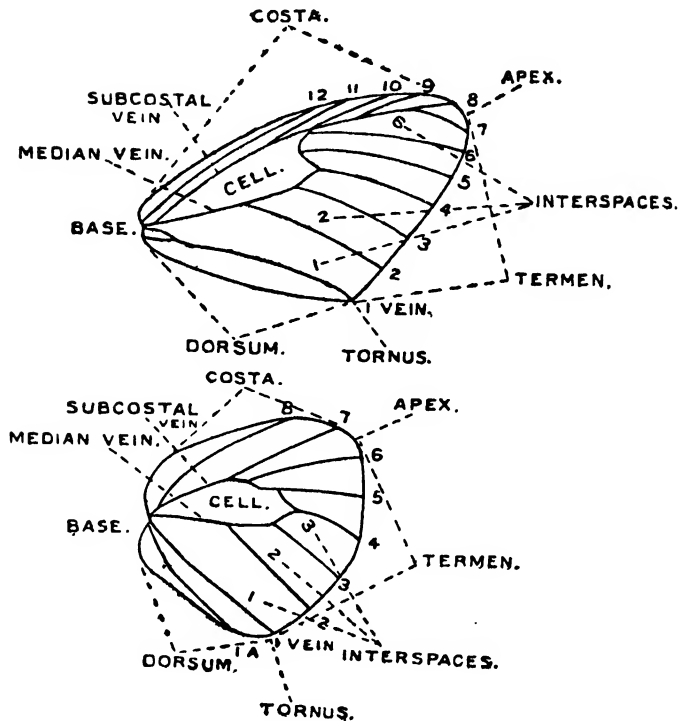
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INTRODUCTION.



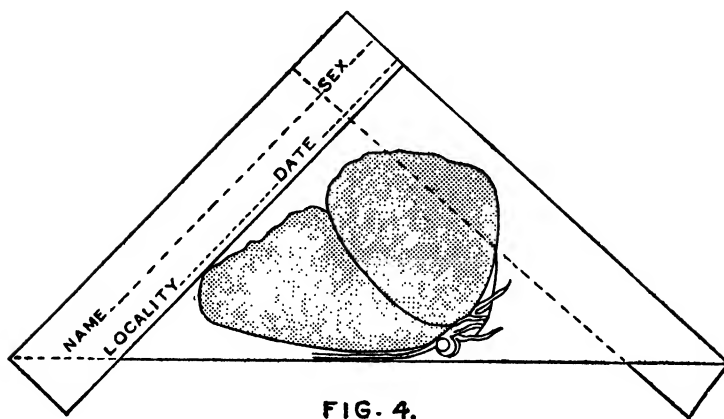
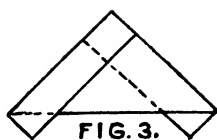
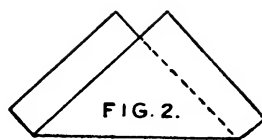
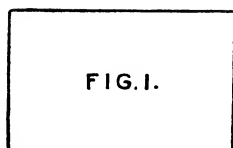
The above diagram gives details of the veins and terminology used in describing the species throughout these pages, otherwise technical terms have been avoided.

There are usually, in the wings of Butterflies, besides the subcostal and median veins, 12 veins in the forewing and 8 in the hindwing but exceptions to the rule are met with in that one or more veins may be absent or in excess of the usual.

Markings may be described as basal, subbasal, medial or discal, postdiscal, sub-terminal and terminal, all terms that are easily understood.

♂ denotes male and ♀ female.

INTRODUCTION.



PAPILIONIDÆ.

Swallowtails.

Wings variable in shape and expanse. Hindwing generally with a tail which may be long, short, broad or slender—at least, in most of the species there is some extension of the termen at vein 4. Antennæ: comparatively short with club generally distinct. Body, stout.

Family.—PAPILIONIDÆ.

Genus.—ARMANDIA.

1. **Armandia lidderdali**, ♂ ♀.—Upperside dark grey. Forewing crossed by slender ochraceous-white lines. Hindwing with similar lines, a large lower discal patch, the inward half scarlet, the outer half black, followed by yellow lunules in the interspaces. The black on the outer half of the discal patch has 2 large ill-defined white spots shaded with grey except along their inner margins. Veins 1 to 4 produced and forming 4 tails, the third being much the longest. Underside similar but with the markings broader.

Expanse.—4" to 4½".

Habitat.—Bhutan; Assam, the Naga and Manipur Hills.

Rare.

Notes.—The wings of this butterfly are very fragile. It is a weak flier, keeping to the tree tops and seldom descending to the ground. It occurs at elevations of 5,000 to 8,000 feet. There are 2 broods, the insect appearing in May—June and again in August—September.



FIG. 1.—ARMANDIA LIDDERDALI.

Genus.—LEPTOCIRCUS.

2. **Leptocircus curius**, ♂ ♀.—Upperside brownish black. Forewing crossed by a broad white transverse band, its outer half hyaline followed by a hyaline area which does not reach the margins of the wings but is traversed by black veins. The terminal black border broad, broadening towards the apex. Hindwing: the transverse white band extends from the costa and ends in a point on the outer half of vein 3, but is not hyaline along its outer margin. The long narrow tail is tipped white, fringe black, white below vein 5 and along outer side of basal half. Underside similar but with a broad earthy-grey streak along the base of the wing.

Expanse.— $1\frac{3}{4}$ " to 2".

Habitat.—Throughout Assam.

Common.

Notes.—This insect frequents the paths and open clearings in heavy jungle and is easy of capture while hovering over flowers. Its flight is very rapid.

3. **Leptocircus meges**, ♂ ♀.—Very similar to *L. curius* but the transverse band across the forewing is placed nearer the base. This band of both fore and hind wings greenish, not white. The outer margin of the band of the forewing not hyaline as in *L. curius*. The black terminal margin of forewing narrower and of even width throughout.

Expanse.— $1\frac{3}{4}$ " to 2".

Habitat.—Assam; the Naga Hills. Uncommon.



FIG. 2.—LEPTOCIRCUS
MEGES.

Genus.—TEINOPALPUS.

4. **Teinopalpus imperialis**, ♂ —Upperside black, densely covered with green scales. Forewing: a slightly concave subbasal band and a narrow terminal edging jet black due to the ground colour there being devoid of green scales—the scales on the outer edge of the subbasal band much lighter green; beyond are 2 broad bands and a much narrower subterminal band showing more of the black ground colour. Hindwing: subbasal band as on forewing

but irregularly sinuous, beyond, a bright yellow discal patch stained with orange anteriorly and bordered outwardly with black. The post-discal area is dark green margined inwardly with grey and outwardly by a subterminal series of lunular markings the tornal and upper two or three of which are yellow, the rest bright green. A bright streak on the outer edge of the subbasal band for its posterior half. Tail tipped with yellow. Underside basal area of both wings densely covered with green scales. Forewing: terminal two-thirds rich yellow-brown, the green of the basal area bordered by black, discal and post-discal bands also black, a very slender subterminal black line and broader black terminal line not reaching the apex. Hindwing: very similar to the upperside but the yellow markings broader.—♀ much larger. Upperside, forewing: The green scales on the terminal two-thirds restricted to a subterminal broad band blurred along its inner edge and a medial ill-defined band bordered on both sides by dusky



FIG. 3.—TEINOPALPUS IMPERIALIS, ♂.

black; this is followed by two broad blurred transverse dark grey bands followed by a subterminal green band and terminal black margin. Hindwing: the discal yellow patch of the male replaced by a much larger dark grey patch, below which narrow yellow markings extend up to the dorsum. A post-discal lunular narrow black band and a subterminal series of green lunules as in the male—the apical lunule dark grey not yellow. The tails at apices of veins 3 to 6 are black shaded with green, those at the apices of veins 4 and 6 tipped, the former with yellow, the latter with greenish-white. Underside similar to that of the male but on both wings the rich yellow is replaced by grey. On the hindwing the grey discal area extends up to the apical lunule. ♂ and ♀ head, thorax and abdomen black, covered with green hairs and scales.

Expanse.— $3\frac{1}{2}$ " to 5".

♂ Fairly plentiful. ♀ Scarce, rare.

Habitat.—Darjeeling, Sikkim, Bhutan, the hills of Assam.

Notes.—Found at high elevations up to 10,000 feet. Flight strong and very rapid. This lovely butterfly keeps to the top of the trees and is therefore difficult to capture. It is plentiful in the Khasia Hills near Cherrapungee.

For illustration of female, see Plate 1.

Genus.—PAPILIO.

5. **Papilio cerberus**, ♂.—Upperside forewing rich black with internervular pale streaks. Hindwing velvety black and rich yellow, the veins narrowly black—the inner margin of the terminal black border produced inwards and forming cone-shaped markings. The post-discal black spots in the interspaces very variable in number and sometimes joining up with the terminal border. Underside similar, the pale streaks on the forewing broader and more prominent. Antennæ, head and thorax black, the collar narrowly crimson, abdomen yellow shaded above with black, beneath the thorax has a large lateral crimson patch. ♀ very similar to the male but the internervular streaks of the forewing broader and more prominent. Hindwing: the black at base and along the costal margin broader, the post-discal series of black spots much larger, dorsal margin also more broadly black, abdomen dark brown, black above. Antennæ, head and thorax as in the male. Larger than the male.

Expanse.—6" to $7\frac{1}{4}$ ".

Common.

Habitat.—Darjeeling, Sikkim, Bhutan and throughout Assam.



FIG. 4.—PAPILIO CERBERUS, ♂

6. **Papilio æacus**, ♂ ♀.—Closely resembles *P. cerberus*. ♂ Hindwing:

the cone-shaped terminal black markings in interspaces 2, 3 and 4 more or less broadly bordered on the inner side by a dusky area that is speckled with black scales. Underside similar to the upperside but the dusky black borders of the cone-shaped marks in interspaces 2, 3 and 4 wanting. Head, thorax and abdomen as in *cerberus*, but the abdomen beneath with two rows of black spots.

Expanse.—4½" to 7".

Habitat.—Sikhim, Assam, Khasia Hills, Cachar. Uncommon.



very large. The abdomen in the ♂ yellow and in the ♀ dark.

Expanse.—5½" to 7¼".

Habitat.—Southern India—Bombay to Travancore, Nilgiri Hills.

Fairly common.

8. **Papilio hector**, ♂

—Upperside black. Forewing with a broad white band from just below the costa to the tornus and a short pre-apical band, both bands composed of detached streaks. Hindwing with a discal outwardly curved series of 7 crimson spots followed by a subterminal series of crimson lunules. Underside markings as

7. **Papilio minos**, ♂ ♀.—Very similar to *P. cerberus* but the black markings of the hindwing much broader. The ♂ has no post-discal spots while the ♀ has these



FIG. 5.—**PAPILIO MINOS**.

on upperside but the crimson spots on the hindwing larger. Antennæ, thorax and abdomen above at base black; head and rest of abdomen bright crimson. ♀ similar, the discal series of spots and subterminal lunules much duller. Abdomen above with the black extending further towards the apex.

Expanse.— $3\frac{1}{2}$ " to $4\frac{3}{4}$ ".

Habitat.—Bengal, Calcutta, Orissa, Chittagong, Southern India. Common.

Notes.—Between Mettupolliyam and Kallar at the foot of the Nilgiri Hills this butterfly can be seen in thousands hovering at the flowers of "Lanterna" in the spring and again at the end of the rains. It is easily captured while feeding. Its flight at other times is rapid. It roosts in large numbers together.



FIG. 6.—PAPILIO HECTOR, ♂.

9. **Papilio aristolochiæ**, ♂.—Upperside black.

Forewing with well defined internervular pale streaks on the discal area. Hindwing with elongate white discal markings in interspaces 2 to 5 beyond the cell; beyond these a series of lunular spots dull crimson covered with black scales; the spot in interspace 1 large margined interiorly with white. Underside: ground colour and markings similar but the crimson subterminal spots on the hindwing much brighter, not covered with black scales. Antennæ, thorax and abdomen above black, the head and the whole of the thorax and abdomen beneath vermilion-red. ♀ similar but wings broader than in the ♂.



FIG. 7.—PAPILIO ARISTOLOCHIÆ, ♂.

Expanse.—3" to 4".

Habitat.—N. W. India, W. and S. India, Sikhim, and throughout Assam and its hill ranges.

Widely distributed. Very common.

10. **Papilio pandiyanus**, ♂.—Upperside black. Forewing with three or four white streaks in



FIG. 8.—PAPILIO PANDIYANUS, ♂.

the cell and a number of similar streaks from costa to dorsum but not reaching the termen. Hindwing: two-thirds of cell and beyond this white discal markings in interspaces 1 to 7 followed by a subterminal series of crimson lunules covered



FIG. 9.—*PAPILIO CACHARENSIS*, ♂.

the next above crimson. Both fore and hindwings very narrow and tail with very narrow shaft. Head, collar and abdomen pinkish red. Underside similar, ground colour duller. ♀ Similar but paler.

Expanse.—4" to 4½". Very local.

Habitat.—Cachar.

12. **Papilio varuna**, ♂.—Upper-side rich blue-black. Outer half of forewing with pale internervular streaks more or less prominent. Under-side similar but with the pale internervular streaks broader and extended further inwards and well up to the terminal margin. Antennæ, head, thorax and abdomen black: the head in front, on the sides and beneath, the sides of the thorax and of the abdomen bright crimson; beneath, the thorax

with black scales making the lunules very dull. Underside similar, the markings more distinct. Antennæ, head, thorax and abdomen above black, the head in front and beneath, the thorax at the sides and the apex of the abdomen crimson. ♀ similar, forewing broader, the white and crimson markings larger and brighter.

Expanse.—4".

Rare.

Habitat.—South India: Travancore.

11. **Papilio cacharensis**, ♂.—Upper-side dull black. Forewing with very conspicuous pale streaks in the interspaces extended well into the cell but not reaching the termen. Hindwing black. Apical two-thirds of the cell and more or less elongate spots beyond and surrounding it white, a subterminal row of dull white spots, the lower two and sometimes

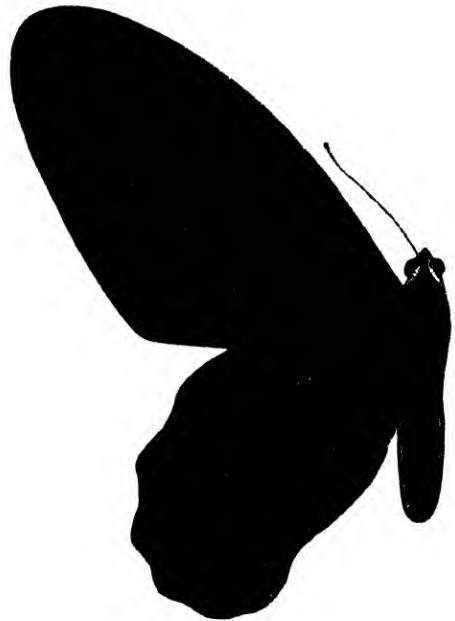


FIG. 10.—*PAPILIO VARUNA*, ♀.

and abdomen black, the latter with lateral black spots in addition on its crimson sides. ♀. Upperside dull black the internervular streaks of the forewing broader than in the ♂. Hindwing more uniform and of a dark dull blue. Underside similar. Antennæ and thorax black, abdomen brownish black, head crimson; beneath as in the ♂ but the crimson less bright and without the lateral spots on the sides of the abdomen.

Expanse.—3" to 5¼".

Common.

Habitat.—Sikhim, Bhutan, Assam.

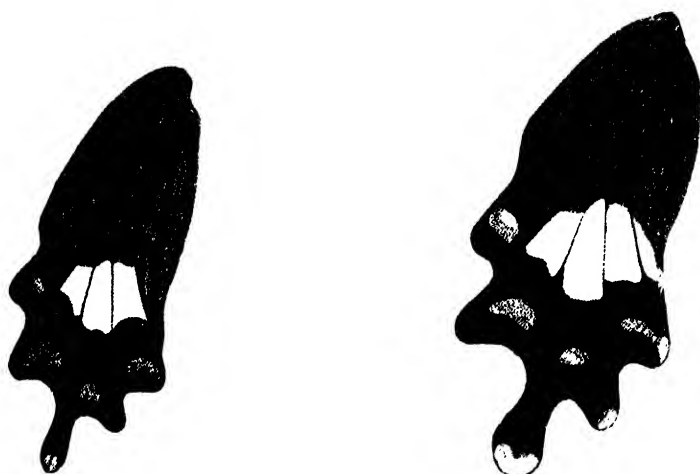
13. **Papilio aidoneus**, ♂ ♀. Differs slightly from *varuna* in that the cell of forewing is not so long. Abdominal fold to the hindwing in the ♂ rounded not square as in *varuna*, the scales within the fold white with an edging of pink. ♀ larger, ground colour greenish brown, not black; abdomen with a broad white, not crimson, lateral stripe.

Expanse.—4" to 6¼".

Not common.

Habitat.—Sikhim, Bhutan, Assam, the Naga Hills.

13. **Papilio latreillei**, ♂.—Upperside dull brownish black. Forewing, internervular pale streaks on the outer half of the wing and in the cell. Hindwing:



♂ FIG. 11.—PAPILIO LATREILLEI. ♀

beyond the cell three large white spots in interspaces 2, 3 and 4, the spot in interspace 2 slightly tinged outwardly with crimson, a subterminal series of crimson lunules in interspaces 2 to 5, the last on the upperside tinged with white, a crimson spot at tip of tail. Underside similar but spots larger and brighter. Head and front of thorax crimson the rest of the body above, black, beneath the thorax and abdomen crimson with black markings. ♀ similar, paler markings, larger wings considerably broader than in the ♂. Head, thorax and abdomen as in the ♂.

Expanse.—4¾" to 5¼".

Scarce.

Habitat.—Nepal; Sikhim; Assam.

Note.—This fly occurs only at high elevations, above 7,000 ft.

14. **Papilio philoxenus**, ♂.—Upperside black. Forewing with pale internervular streaks extending slightly into the cell and not quite reaching the terminal margin. Hindwing, a large white spot in interspace 5 and usually a much smaller white spot in the interspaces above or below, sometimes in both; a series of post-discal red lunules in interspaces 2, 3 and 4 and at apex of tail. Underside similar but duller, the streaks on the forewing very broad. Hindwing similar to the upperside, but with an additional red spot near base of interspace 3 and a crimson bar below it in interspaces 1 and 2. Markings somewhat larger than on the upperside. ♀. Similar, usually larger, ground colour duller, markings much duller crimson sometimes nearly white and much covered with black scales. The large spot in interspace 5 much larger than in the ♂. Antennæ black, head and thorax in front crimson remainder black; beneath: crimson, the abdomen with black spots on the sides.

Expanse.—5" to 6".

Habitat.—The Himalayas, Sikkim, Bhutan and

FIG. 12.—**PAPILIO PHILOXENUS**, ♀. throughout the hill ranges of Assam.

Notes.—A very common insect in the Khasia Hills where specimens are much finer than those occurring elsewhere.

15. **Papilio dasarada**, ♂ ♀.—Very similar to *philoxenus* but somewhat larger and with broader tail to the hindwing. A variable aberration of *philoxenus*. The two fly together in the same locality.

Habitat.—Sikkim, Assam, Khasia Hills. Rarer than the foregoing.

16. **Papilio ravana**, ♂.—Upperside brownish black. Forewing with black internervular streaks extended into the cell in some specimens. Veins black. Hindwing: a subterminal series of markings in interspaces 2 to 6 white tinged with crimson, in interspace 7 a small spot, that in interspace 5 very much larger than the others. A crimson spot on the tail. Underside similar but paler, on the hindwing an additional crimson spot at base of interspaces 1 and 2. ♀. Similar, much paler than in the ♂, ground



FIG. 13.—**PAPILIO DASARADA**, ♂.

colour brown, markings similar to those in the male but larger; in addition a series of white discal spots near base of interspaces 1 to 4, that in interspace 1 tinged with crimson. Underside similar but spots more strongly tinged with crimson. Antennæ, thorax and abdomen black, head crimson, beneath, the sides of the thorax and abdomen crimson, spotted with black.

Expanse. 4-1 $\frac{1}{3}$ " to 4-2 $\frac{1}{3}$ ".

Habitat.—N. W. Himalayas, Mussoorie. Scarce.

17. **Papilio nevillei**, ♂ ♀. Very like *P. ravana* but is smaller and differs as follows: The subterminal markings on the hindwing crimson, not white or partly white as in *ravana*. The tail is black without any red spot.

Expanse.—3" to 3-1 $\frac{1}{3}$ ".

Rare.

Habitat.—Recorded so far only from Cachar.



FIG. 14.—*PAPILIO RAVANA*, ♂.

18. **Papilio alcinous**, ♂. Upperside black. Forewing with broad pale streaks from near the base to terminal margin, also in the cell. Hindwing, cell and interspaces to near the termen pale, veins black, a subterminal series of whitish pink broad markings in interspaces 2 to 6. Underside similar, ground colour paler, an additional lunule in interspace 1 extending into interspace 2 and another small lunule in interspace 7. ♀. Upperside, paler, greyish. Forewing with black streaks and veins. Hindwing with the submarginal

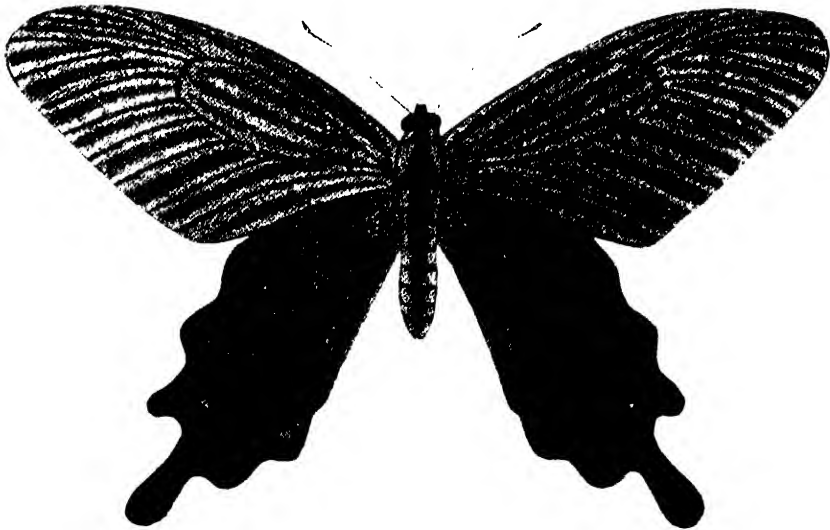


FIG. 15.—*PAPILIO ALCINOUS*, ♂.

markings slightly larger than in the ♂, their margins surrounded with dull dark black. Underside slightly paler than the upper side. Antennæ, head, thorax and

abdomen above black, beneath the collar, front of head, sides of thorax and abdomen pinkish red, black segmental bands on abdomen beneath.

Expanse.—4" to 4½".

Habitat.—Bhutan.

Rare.

19. **Papilio sikhimensis**, ♂ ♀. —Upperside: Forewing basal third, a transverse post-discal band and preapical spot dull black irrorated with yellow scales. A broad band across cell and another beyond black, the following markings all cream-yellow: a broad band across middle of cell, another narrower band at its apex, a narrow streak at base of interspace 9, a square spot near base of interspace 8, a transverse discal series of streaks in interspaces 1a to 7 and a transverse subterminal series of crescentic spots. Interspace 7 with an irregular diamond-shaped black spot. Hindwing: little more than the basal half cream-yellow with the veins, dorsal margin and apex of cell black. Terminal portion black with a post-discal transverse series of dull blue spots and a subterminal series of cream-coloured lunules, inner margin of this black area only slightly curved and extending right across the wing. A yellow-red spot at the tornal angle separated from a blue lunule above by a narrow black band. Tail short and stout and all dark marking very much broader

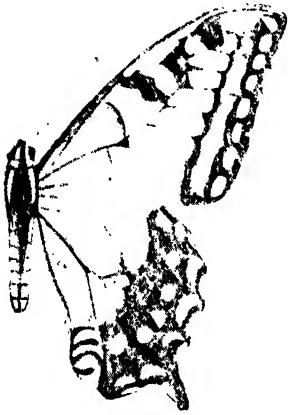


FIG. 16.—*PAPILIO SIKHIMENSIS*.

and darker than in the typical *P. machaon* of the N. W. Himalayas, continental specimens and those from the fens of Lincolnshire. Underside: pale cream colour, markings somewhat similar to those of the upperside, the dark markings of the upperside showing through, the cream coloured portions being sprinkled with black scales. Antennæ black, head, thorax and abdomen cream coloured. Above, the head, thorax and abdomen bears a black streak broad in the ♀ and narrow in the ♂, beneath, the abdomen has narrow black lines.

Expanse.—3" to 3-1½".

Habitat.—Eastern Himalayas, Sikhim, Bhutan.

Common.

20. **Papilio demoleus**, ♂ ♀. —Upperside black. Forewing: base thickly speckled with yellow scales, two yellow spots in cell and a curved spot at its apex. A transverse series of irregular cream-yellow spots much varying in size from interspace 1a to 8, no spot in interspace 5, a post-discal series of same coloured spots, small, and a terminal series of much smaller spots. The black ground colour of the terminal half covered with yellowish scales. Hindwing: base and dorsal



FIG. 17.—*PAPILIO DEMOLEUS*.

margin speckled with yellow scales, a broad yellow medial band, a post-discal series of spots, and a terminal series of smaller yellow spots. Beyond the cell there are one or more cream-yellow spots and the black ground colour is covered with yellowish scales. At the tornal angle an oval brick-red spot surmounted by a blue lunule. In interspace 7 there is a large eye-like spot of the black ground colour speckled with blue scales. Underside: duller, the markings paler and larger. The base of forewing with cream-coloured streaks and in the hindwing between the medial band and post-discal series of spots, the markings in interspaces 2 to 6, the eye-like spot in interspace 7, and apex of cell ochraceous margined with blue. Head, thorax, and abdomen above, black covered with yellow scales, beneath yellow with a darker yellow stripe margined with black on sides of abdomen.

Expanse.— $3\frac{1}{4}$ " to 4".

Habitat.—Throughout India and Assam.

Very common indeed.

The larva feeds on the Lime, Orange and other species of Citrus.

21. **Papilio helenus**, ♂ ♀.—Upperside brownish black. Forewing: four fine lines in cell and terminal internervular streaks brown, giving a bronze appearance to the wing in some lights. Hindwing: a conspicuous white patch formed by 3 spots in interspaces 5, 6 and 7. An admarginal series of incomplete red rings in interspaces 1 to 5 enclosing large black oval spots. While the tornal ring is always present the others are partially or completely obsolescent. Cilia, alternated black and white. Underside duller. Hindwing: markings similar, the white patch generally smaller, the spots being divided by the black veins; the admarginal rings are dull red, the tornal ring and that in interspace 2 are the only ones of the series more or less complete, the others appear as lunules only in interspaces 3 to 7. In addition there is an inner red lunular spot in interspace 2, both the lunule and the inner portion of the tornal ring crossed by a line of white scales. Antennæ, head, thorax and abdomen black, the abdomen beneath greyish white along the sides.

Expanse.—4" to $5\frac{1}{2}$ ".

Habitat.—The Himalayas and throughout Eastern Bengal and Assam.

Common.

Food plant.—Lime, Orange and other species of Citrus.



FIG. 18.—**PAPILIO HELENUS**, ♂.

22. **Papilio daksha**, ♂ ♀.—This takes the place of *P. helenus* in S. India and is very similar but generally rather larger. It differs slightly as follows:—

The upper discal white patch much larger than in *P. helenus* and below this white patch, in some specimens will also be found 2 red crescent-shaped marks in addition to those found in *P. helenus*.

Expanse.— $4\frac{1}{4}$ " to $5\frac{2}{3}$ ".

Habitat.—Throughout South India.

Food plant.—Lime, Orange and other species of Citrus. Common.



FIG. 19.—*PAPILIO LIOMEDON*, ♀.

23. ***Papilio liomedon***, ♂ ♀.—Upperside brownish black. Fore and hindwings crossed by a broad yellowish-green band commencing at the middle of the dorsal margin of the hindwing and extending right across the wings to apex of forewing, the upper portion of this band being composed of separated spots diminishing in size to the apex. The hindwing has in addition a subterminal series of similarly coloured lunules, the spot at the tornal angle and sometimes the next to it tinged

with pinkish brown. Underside similar as to the band crossing the wings, the cell of the forewing with a series of slender pale lines, the veins also showing as pale lines. On the hindwing the interspaces of the terminal area are marked with broad black streaks up to the subterminal line of lunules, these streaks traversed by a line of blue scales succeeded by pre-apical brownish-yellow spots in interspaces 1 and 7. Antennae, head, thorax and abdomen black, beneath greenish white, thorax grey.

Expanse.— $3\frac{3}{4}$ " to $4\frac{1}{2}$ ".

Habitat.—Southern India. Uncommon.

24. ***Papilio memnon***.—Polymorphic; there being three different recognised forms of the male and three of the female. ♂ *First form*.—Upperside deep blue-black; forewing with or without a dark red streak at base of cell, both fore and hind wings with bluish internervular streaks. Underside, forewing dull black,



FIG. 20.—*PAPILIO MEMNON* ♂.
First and usual form.

the internervular streaks as on the upperside but much broader, a broad dark red patch at base of cell. Hindwing dull black with darker streaks in the interspaces broadening towards the apex, base of wing and tornal area red, the latter variable in extent; subterminal black spots in interspaces 1 to 4 and a post-discal shading of lunular blue scales in each interspace. Antennæ, head, thorax and abdomen black. The abdomen brownish beneath.

♂. *Second form.* Upperside: the internervular blue scaled streaks more or less obsolescent sometimes completely so on the forewing or obsolescent on the fore and very pronounced on the hind wing. Underside forewing like that in form one, hindwing with the red tornal markings extending to interspace 4. One or more red post-discal lunules also in the interspaces.

♂. *Third form.*—Upperside: hindwing with a series of 2 or 4 black spots encircled with white scaling, bluish-white streaks much whiter than in the other forms of the male. Underside: hindwing with an anal and three submarginal grey rings, the anal ring and a grey subdiscal lunule tinged with red, the subdiscal series of blue spots is incomplete. In the Sikhim and Khasia Hill specimens of this form there is a good deal of difference in the strength of the markings but not sufficient to make a fourth distinct form of the ♂.

♀. *First form.* Tailless. Upperside forewing: the basal third of the cell bright red touched outwardly with white, a speck of the same colour at base of interspace 2, the bases of interspaces 1 and 2 black, remainder of wing grey with the veins and internervular streaks dusky black. Hindwing: basal half of wing blue-black, terminal half white traversed by black veins broadly bordered on each side by black, interspaces 1 to 7 with a series of large black oblong spots, those in 1 to 3 encircled by a shading of reddish scales, the basal and anterior portions of the wing are black dusted with bluish scales. Underside very similar to the upperside. Some specimens have an inner post-discal row of dark blurred spots on the white of the hindwing, the base red and the terminal margin with a grey edging traversed by the black veins. Antennæ, head, thorax and abdomen brownish black.



FIG. 21. PAPILIO MEMNON, ♀.
Second form.

♀. *Second form.* Tailless. Upperside: forewing as in form one but paler. Hindwing bluish green and streaks of blue scaling as in the ♂, interspace 1 whitish, outwardly merged into a red shading round a subterminal black spot. Underside: forewing as in form one but paler. Hindwing similar to that in many of the males but with a broad white streak in interspace 1.

♀. *Third form.*—Tailed. Upperside forewing: basal third of cell and a small spot at base of interspace 2 bright red, a black patch at bases of interspaces 1 and 2, rest of the wing greyish brown with black veins and internervular streaks. Hindwing, black, apical half of cell and streaks in interspaces 1 to 6 white, the latter tinged outwardly with bright red, lastly a terminal series of bright red marginal spots decreasing in size from interspaces 1 to 7. Cilia black alternated with white in the interspaces. Underside similar, paler, base of hindwing red, terminal spots bright red, the anterior marginal spots greyish white. Antennæ, head, thorax and a line on the abdomen above brownish black, a broad band on the sides of the abdomen yellow, beneath, dusky black. Tail, black both upper and under sides.



FIG. 22.—*PAPILIO MEMNON*, ♀.
Third form.

Expanse.— $4\frac{3}{4}$ " to $6\frac{1}{2}$ ".

Habitat.—Throughout India (ex-

cluding the N. West and Central India) and Assam. Exceedingly common in Khasia Hills.

25. *Papilio polymnestor*, ♂.—Upperside black. Forewing with a post-discal blue band extending from the dorsum up to interspace 6. Hindwing: the terminal two-thirds pale blue with post-discal, subterminal and terminal series of black spots. Underside dull black. Forewing with a dark red spot at base of cell, the blue streaks as on the upperside but greyer and tinged with yellow and extending right up to the costa. Hindwing with 5 small red patches at base, the outer two-thirds of the wing grey touched with yellow, the post-discal and terminal black spots as on the upperside. These terminal markings very variable. Antennæ, head, thorax and abdomen dark brown. ♀ very similar but the internervular streaks on the forewing paler and extended into the cell on both the upper and under sides.

Hindwing: the pale blue area on the upperside and the grey area on the underside paler. In some specimens there is a short crimson streak at the base of the cell of the forewing on the upperside.

Expanse.— $5\frac{1}{2}$ " to 6".

Habitat.—Sikkim, Lower Bengal, Central and Southern India.

Scarce. ♂ Common.

Food plants.—Lime, Orange and other species of Citrus.

26. **Papilio polymnestoroides**, ♂ ♀.—Very similar to the foregoing. Upperside forewing: the internervular blue streaks not so broad. Hindwing: basal portion to apex of cell black, beyond, a series of internervular blue streaks that do not reach the outer margin; these are followed by a series of large subterminal spots in interspaces 1 to 4 darker than the ground colour.

Expanse.—5" to $4\frac{3}{4}$ ".

Habitat.—Eastern Bengal and Assam only.

Rare.



FIG. 23.—PAPILIO. POLYMNESTOR, ♂.

27. **Papilio protenor**, ♂ ♀.—Upperside black, wings with bluish gloss. Underside paler, specially the forewing which is striped with whitish in the cell. Hindwing with red submarginal spots of which the central ones are generally absent and those in interspaces 6 and 7 united into rings with the marginal spots, a long white costal streak

and tornal angle marked with red. The female is much paler and somewhat larger, the wings being broader. Antennæ black, head, thorax and abdomen brownish black.

Expanse.—4" to $5\frac{1}{3}$ ".

Habitat. The Himalayas and throughout the hills of Assam.

♀ Scarce. ♂ Common.



FIG. 24.—P. PROTENOR, ♂.
Underside.

28. **Papilio rhetenor**, ♂.—Wings narrower than in the foregoing, specially so in the hindwing. Upperside: Forewing black glossed with blue, a series of pale internervular streaks, a red streak at base. Hindwing: terminal outer half sprinkled with bluish scales, an incomplete white ring at the tornal angle that encloses a black spot bordered above by red. Underside: forewing similar but paler, internervular streaks broader; a patch of dark red at the base. Hindwing black, thickly covered with blue scales, a dark

red patch at base continued along the dorsum and nearly filling interspaces 1 and 2

In interspace 1 are two small black spots and some white scales, in interspace 2 are three large black spots and in interspaces 6 and 7 a dull spot of blue scaling. Antennæ, head, thorax and abdomen black, paler beneath.

♀.—Upperside: duller black. Forewing: the internervular streaks broader and paler than in the male, the red streak at base broader. Hindwing: a medial white patch divided into four by the veins, a discal series of three small red marks in interspaces 2, 4 and 5 followed by larger red lunules in



FIG. 25.—*P. RHETENOR*, ♂.
Underside.

interspaces 2 to 5, admarginal large red spots in 2 and 3 and a large red spot centred with black at the tornal angle. Markings very variable. Underside: markings more or less similar to those on the upperside but the white and red more extensive. The hindwing has a broad rounded tail.

Expanse.—5" to 5½".

Habitat.—The Himalayas and hill ranges of Assam. Ascends to about 6,000 feet.

Note.—The ♀ is a mimic of the *Papilios dasarda* and *philoxenus* of the same locality.

♂ Common.

♀ Rare.



FIG. 26.—*PAPILIO RHETENOR*, ♀.
Underside.

29. **Papilio bootes**, ♂.—Upperside black, forewing with pale internervular streaks not reaching the terminal margin. Hindwing: interspaces 3 and 4 with elongate oval white spots at their bases, a red spot at tornus and at apex of interspace 2. Whitish spots sprinkled with a few red scales at apex of interspace 3, two near apex of tail and a fourth at apex of interspace 4. Underside similar, markings as on upperside but the base of the wing dark red, the tornal red spot with a broader lunular



FIG. 27.—*PAPILIO BOOTES*, ♀.

mark above it, and similar lunules above the admarginal spots. Tail spatulate; head, a part of the thorax and a lateral stripe on the abdomen dull red. ♀ —Similar but with an additional white spot in interspace 2 forming the medial white patch, the red at base of wings more extended, the post-discal lunular spots larger.

Expanse.— $4\frac{1}{4}$ " to $5\frac{1}{4}$ ". Uncommon.

Habitat.—The Khasia Hills, Assam

30. **Papilio janaka**, ♂ ♀.—Very similar to *P. bootus*. Upperside duller, more greyish black, the discal white spots extended into interspace 2 and sometimes also interspace 5, a post-discal series of red lunules. Underside: the discal white patch generally dusted with red scales, the red at the base of both wings extends along the abdominal margin of hindwing.

Expanse.—4" to 5".

Habitat.—North-West India to Sikkim. Rare.

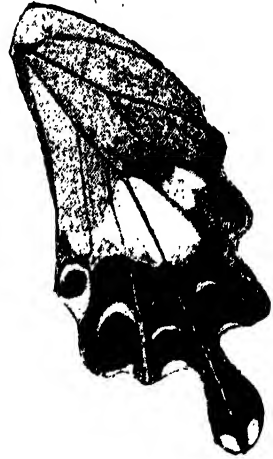


FIG. 28.—PAPILIO JANAKA, ♂.

31. **Papilio chaon**, ♂.—Upperside black with a few yellowish brown scales on the forewing. The white discal patch on the hindwing made up of four spots in interspaces 4 to 7 and not 3 to 7 as in *P. helenus*. Underside: hindwing with a submarginal series of yellow lunules followed by marginal narrow white spots. ♀ larger, and with all the markings extended and brighter. On the upperside *P. chaon* closely resembles *P. helenus*, fig. 17.

Expanse.— $4\frac{3}{4}$ " to 5".

Common.

Habitat.—The Himalayas and throughout Assam, Cachar and Sylhet.



FIG. 29.—PAPILIO POLYTES, ♂.

32. **Papilio polytes**, ♂ ♀.—Polymorphic, the ♂ varying only slightly the ♀ with three strikingly different forms. ♂ Upperside black. Forewing, cell and apical portion dusted with pale yellow scales. Hindwing: a transverse series of elongate white discal spots in all the interspaces, beyond these dull blue scaling. Underside similar but with an incomplete series of dirty white lunules beyond the discal band, and a series of small admarginal spots, the tornal spot separated from the blue scaling by a dark yellowish-red line. ♀ Upperside, forewing: the basal one-third and terminal margin black, the discal portion and cell lighter traversed by the black veins and internervular streaks, the outer

margin undulate with narrow white fringe spots. Hindwing dark at base, apex of cell and elongate spots in interspaces 2 to 5 white and the lower half of

interspace 1 with red and yellowish markings dusted with blue scales; a large black tornal spot with a smaller like spot above it within a red area, the red extending into interspace 2 and joining up with the white elongate spot. Further, a post-discal series of red lunules in the interspaces and lastly white marginal spots. Underside similar. Antennae, head, thorax and abdomen black, the abdomen beneath with lateral rows of white specks. Very common.

♀. *Cyrus form.*—Similar to the ♂ but the band of the hindwing broader and the submarginal spots are large and yellowish red on the underside, a bright red tornal spot with a blue lunule above it. Rare.

♀. *Romulus form.*—Resembles the ordinary *polytes* ♀ form but is easily distinguishable as follows:—Forewing with a short subapical and a longer discal whitish oblique band. Hindwing: all the markings replaced by dark red.

Expanse.— $3\frac{3}{4}$ " to $4\frac{1}{8}$ ".

Habitat.—Throughout India and Assam.

Not uncommon.



FIG. 30.—*PAPILIO POLYTES*, ♀.



FIG. 31.—*PAPILIO POLYTES*, ♀.
Romulus form.

The larva feeds principally on species of *Citrus*. The *Romulus* form mimics *P. hector* and both fly in the same locality. In Southern India where *P. hector* is most common the *Romulus* form of *P. polytes* is more plentiful than in the northern districts.

33. ***Papilio sakontala***, ♂.—Very similar to the ♂ of *P. polytes*, but both wings narrower than in that form. Forewing with narrow marginal spots and dull grey discal stripes. Hindwing with a discal band composed of yellowish spots

dusted with black; the reddish submarginal spots of the hindwing on the underside are very small, some of them not developed. Female is unknown. Very rare, only a few specimens have been taken in North-East India.

Expanse.— $4\frac{1}{4}$ ".

Habitat.—Sikhim and hill ranges of Assam.

34. **Papilio walkeri**.—Only 1 ♂ is known which was taken in Southern India and is in the Tring Museum collection. Forewing with grey discal stripes and white marginal spots. On the upperside of the hindwing a blurred grey-blue discal band and a complete row of yellowish white submarginal spots followed by a terminal series of similarly coloured slender lunules in the interspaces. A very handsome variety of *P. polytes*.

Expanse.—4".

Habitat.—Southern India.

35. **Papilio castor**, ♂.—Upperside black sprinkled with yellowish scales forming cell lines and internervular streaks. Hindwing: a discal large white



FIG. 32.—PAPILIO CASTOR

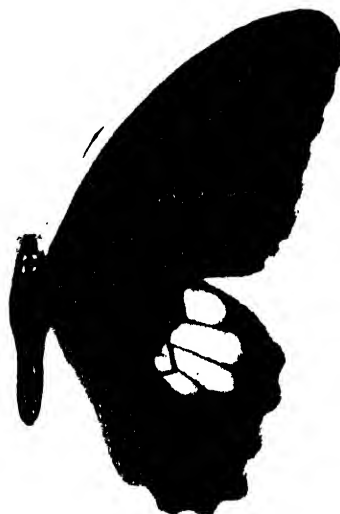


FIG. 33.—PAPILIO CASTOR, ♂.

patch formed of 4 large spots, cilia of both fore and hind wings alternated black and white. Underside duller. Forewing: a small white spot at apex of cell, a subterminal and terminal row of small white specks. Hindwing: the white patch similar to that on the upperside but smaller, a subterminal series of small white lunules and a terminal series of white specks. ♀ Upperside dark brown, more thickly covered with yellowish scales than in the ♂. Forewing markings

as in the ♂ but in addition a dull white spot at lower apex of cell and a post-discal and terminal series of small white spots. Hindwing: a discal series of dull white streaks in the interspaces thickly covered with yellowish brown scales, followed by a curved series of white lunules. Underside similar, the markings larger and more prominent. Antennae black, head, thorax and abdomen dull brown spotted with white.

Expanse.—4" to 4 $\frac{3}{4}$ ".

Habitat.—Northern India and Assam.

♂ Common.

♀ Scarce.



FIG. 34.—PAPILIO DRAVIDARUM.

Expanse.—4 $\frac{1}{4}$ " to 4 $\frac{3}{4}$ ".

Habitat.—Southern India. Uncommon.

37. **Papilio agestor**, ♂ ♀.—Forewing for the most part whitish grey, the veins, an oblique band in apex of cell and the outer margin black. Hindwing brownish red; the cell, a stripe beneath it, as well as 2 or 3 rows of spots between the cell and the terminal margin white-grey. Beneath almost the same as above. ♀ similar to the ♂ but with the wings somewhat broader. Head, thorax and abdomen spotted and streaked.

Expanse.—3" to 4".

Habitat.—The Himalayas and Assam.

Uncommon.

This insect is a mimic of *Danais tytia*.

36. **Papilio dravidarum**, ♂.—Upperside black. Forewing: the outer half and the streaks in the cell dusted with yellowish brown scales, a small white spot at apex of cell; a subterminal series of dirty white spots and a terminal series of spots decreasing in size towards the apex of wing. Hindwing: the basal two-thirds dusted with yellowish brown scales, a very prominent discal series of large dirty white spots followed by a subterminal series of lunules. Underside similar but the markings larger and dusted more heavily with yellowish brown scales. Antennae, head, thorax and abdomen dark brown, head and abdomen speckled with white. ♀ similar to the ♂ but ground colour paler markings larger and the dusting of yellowish brown scales more dense.



FIG. 35.—PAPILIO AGESTOR, ♂.

38. **Papilio epycides**, ♂ ♀.—Wings whitish grey with black vein-stripes and terminal portion—in the latter one row on the forewing and two rows on the hindwing of grey-white spots; a round tornal spot on the hindwing yellow. ♀ paler with the markings larger and the forewing broader.

Expanse.—3" to 3½".

Habitat.—The Himalayas and Assam.

Not rare.



FIG. 36.—PAPILIO
EPYCIDES.

39. **Papilio slateri**, ♂. Wings dark brown, upperside of forewing with bluish white discal stripes and one or two short streaks in apex of cell. Hindwing with a yellow tornal spot and a pale discal area. ♀ similar. Body black, abdomen beneath with three and at each side with two rows of white specks.



FIG. 37.—PAPILIO SLATERI, ♂.

Expanse.—3¼" to 4".

Habitat.—The Himalayas, Assam, Khasia and Naga Hills.

Not rare.

This fly occurs in the spring and is only one brooded.

40. **Papilio clytia**, ♂ ♀.—First form.—Upperside dark brown, a sub-terminal series of white spots on the forewing, the spot in interspace 4 shifted inwards and out of line, a further terminal series of smaller white spots. The hindwing has a discal series of large white spots in the interspaces and a subterminal series of four white lunules in interspaces 2 to 5, a prominent tornal yellow spot. The fringe touched with white in the interspaces. Underside similar but the terminal margin beyond the subterminal series of white markings bears a row of large conspicuous yellow spots. Antennæ, head, thorax and abdomen black, the thorax beneath and sides of abdomen spotted with white.

♂ ♀ of Second form (*Papilio dissimilis*).—Very different to the first form. Wings black, the cell with four streaks, and



FIG. 38.—PAPILIO CLYTIA.
First form.

four spots beyond at apex, discal, subterminal and terminal streaks and spots in the interspaces all cream-white on the forewing. The hindwing with the cell entirely white, long and broad discal white streaks and spots, the subterminal and terminal markings as in the first form. Underside similar to the upperside, the cream-white markings larger, the terminal series of yellow spots on the hindwing as in the first form. Antennæ, head, thorax and abdomen as in the form *Clytia*.

Expanse.— $4\frac{1}{2}''$ to $4\frac{3}{4}''$.

Habitat.—The Himalayas, Assam, Central and Southern India. Common.

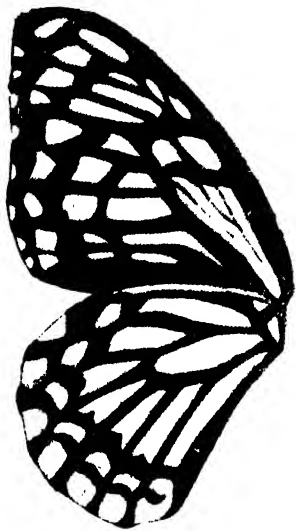


FIG. 39.—*PAPILIO CLYTIA*.
Second form (dissimilis.)

Underside.—brown upper surface of the hindwing and the paler brown undersurface of both wings with white submarginal spots. In the ♀ both wings with white-grey stripes in addition

39. **Papilio telearchus**, ♂.—Forewing above gloss-

ed with blue, a spot in the apex of cell, a row of elongate discal spots and the subterminal spots blue-white, the latter almost white, the dark brown upper



FIG. 40.—*PAPILIO TELEARCHUS*, ♀.

to the spots of the ♂, the terminal half of the forewing purple-blue, the patches less blue than in the ♂. Appears in May—June.

Expanse.— $4\frac{3}{4}''$ to $6''$.

Habitat.—Assam, Naga Hills, Cachar

Rare.

Note.—The ♂ of this butterfly mimics several of the forms of the genus *Euphala* and when flying is not easily recognised as a *Papilio*.



FIG. 41.—*PAPILIO DANISEPE*, ♂.

40. **Papilio danisepe**, ♂ ♀.—Forewing shot with brilliant blue except at the extreme base.

apical $1\frac{1}{3}$ rd of cell and two spots below, white, the lower sparsely dusted with blue scales, a subterminal series of white spots dusted with blue scales. Hindwing: blackish brown, cell white, surrounded by white streaks in the interspaces, these dusted with blue scales at their apices and a subterminal series of bluish white specks. Underside: both wings dark brown not shot with blue, markings as on upperside but pure white and not dusted with blue scales. The ♀ is very similar to the ♂, only larger.

Expanse.— $4\frac{1}{2}$ " to 5".

Habitat.—The hill ranges of Assam, Cachar.

Rare.

Note.—This *Papilio* is a mimic of *Euplava diocletiana*. It appears in May-June.

41. **Papilio elephenor**, ♂ ♀.—Tailless. Similar to *Papilio protenor* but with the hindwing much narrower. Forewing dusted with brilliant green scales. Hindwing: basal half dusted with blue scales and lower terminal half with green scales; tornus with a claret-red patch touched above with violet scales and also with a marginal black spot. Fringe brown alternated with white. Underside: forewing blackish grey with black stripes on and between the veins, hindwing black with a row of claret-red subterminal lunules all more or less dusted with violet scales at the tornal angle a large oblong patch stretching a short way along the dorsum bearing 2 black spots.

♀ milar, larger.
Head pinkish
red, abdomen
on the sides
buff coloured.



FIG. 42.—PAPILIO ELEPHENOR, ♂.

Expanse.— $4\frac{1}{2}$ " to 5".

Habitat.—Assam; Jorhat, Khasia and Naga Hills, Cachar.

Rare, specially the ♀.

42. **Papilio ganesa**, ♂ ♀.—Both sexes very similar. Upperside of wings dusted with green scales, forewing with a narrow green band that varies in length, diffuse towards the costal margin, hindwing with a large patch which is green or blue according to the fall of the light, its inner margin uneven and diffuse. Tornus with a conspicuous claret-red lunule and dull red lunules in the interspaces which show through from the underside. Underside brownish black sprinkled with yellowish



FIG. 43.—PAPILIO GANESA.

grey scales. Forewing with grey discal stripes. Hindwing with a complete row of claret-red lunules each traversed inwardly by a purplish blue line. (*For underside hindwing see plate 2.*). Body black thinly dusted with green scales.

Expanse.— $3\frac{3}{4}$ " to $4\frac{3}{4}$ ".

Habitat.—Himalayas, Assam.

Common.

Note.—The form *P. polycctor* which occurs in the Western Himalayas and Kashmir is slightly smaller than *P. ganesa*. It is more thickly dusted with golden-green scales and the submarginal golden-green band of the forewing is broader and extends nearer to the apex of the wing.

43. **Papilio paris**, ♂ ♀.—Upperside: black dusted with dark green scales. Forewing with or without the green subterminal band. Hindwing with a large green or blue patch according to the fall of the light with its inner margin evenly curved and distinct, a claret-red large black-centred ocellus at the tornal angle, a violet blue line on its inner margin, on the posterior terminal area the green scales are so dense as to form discal and post-discal bands. Underside: dull black



FIG. 44.—*PAPILIO PARIS*.

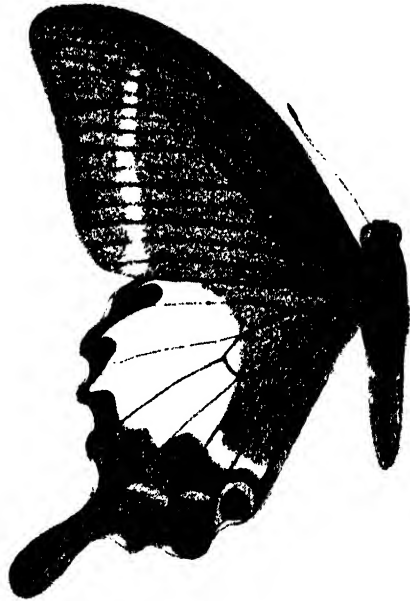


FIG. 45.—*PAPILIO TAMILANA*.

dusted with yellowish scales. Forewing with a broad pale area not extending to the termen formed of internervular pale streaks, short near the tornus and increasing in length up to the costa. Hindwing: a complete subterminal row of red lunules traversed by violet-blue lines. In interspaces 1 and 2 these lunules are black spots. Fringe conspicuously white in the interspaces. ♀ Similar but on the underside the tornal and subternal ocelli larger and more complete. Body black sprinkled with green scales. (*For underside hindwing see plate 2.*).

Expanse.— $4\frac{1}{4}$ " to 5".

Habitat.—The Himalayas, Assam.

Common.

44. **Papilio tamilana**, ♂ ♀.—Very similar to the foregoing but considerably larger with a very large metallic green and blue spot on the hindwing, the grey band on the underside of the forewing reduced. Antennæ, head, thorax and abdomen as in *P. paris*.

Expanse.— $4\frac{1}{2}$ " to $5\frac{1}{4}$ ".

Habitat.—Southern India.

Not uncommon.

45. **Papilio krishna**, ♂ ♀.—Generally resembles *P. paris*. Upperside brownish black dusted with green scales. Forewing elongate; above and beneath marked with a well-defined yellowish discal band. Hindwing with the usual metallic greenish blue discal patch connected with the dorsal margin by a narrow green band, 4 submarginal spots and a large anal eye-spot purple-red beneath, the hindwing has a discal band composed of yellowish spots and a complete series of purple-red submarginal spots and marginal spots reddish. ♀ very similar to the ♂, larger with broader wings. Antennæ, head, thorax and abdomen as in *P. paris*.

Expanse.— $4\frac{1}{4}$ " to $4\frac{3}{4}$ ".

Habitat.—Darjeeling, Sikkim, Bhutan, the Naga and Manipur Hills. From 3,000 to 9,000 feet.

Very local and fairly rare.



FIG. 46.—*PAPILIO KRISHNA*.

46. **Papilio arcturus**, ♂ ♀.—Upperside black dusted with golden-green scales. Forewing with green obsolescent submarginal band. Hindwing anteriorly dusted with blue scales, a large blue patch, irregular in shape in the apex of cell produced to the terminal margin, a subterminal series of 3 to 6 large claret-red lunules and a large conspicuous black centred red ocellus at the tornal angle, both the lunules and tornal ocellus tinged more or less with bluish purple on their inner margins. Underside: the forewing is grey in the terminal half, the hindwing has a complete row of red submarginal spots some of which are often united into rings with the marginal spots. These markings in the ♀ much larger than in the ♂. The ♀ larger and paler than the ♂. This form is easily distinguishable from *P. ganesa* and *P. paris* by its more ample wings, more distinct markings and the larger size of the anal and submarginal spot of the underside on the hindwing. (*For underside hindwing see plate 2.*)

Expanse.— $4\frac{3}{4}$ " to $5\frac{1}{2}$ ".

Habitat.—Sikkim, Bhutan, Assam, the Khasia and Naga Hills. Fairly common in the Khasia Hills.

♀ Scarce.

47. **Papilio buddha**, ♂ ♀.—Upperside thickly dusted with green scales on the basal area, more thinly on the terminal area; a green or blue band according to the fall of the light across both wings, very broad, that on the hindwing not reaching the costa. The band occupying a large portion of the cell on both wings. Hindwing with a yellowish spot before the apex and at the tornal angle, a subterminal series of obscure green lunules. Underside, forewing: apical half pale brownish white darkening towards apex and narrowly along the termen. Hindwing uniform, an outer narrow pale band traversed by a subterminal series of yellowish brown lunules bordered on their inner margins with silvery white. Body black, dusted above with green.



FIG. 47.—PAPILIO BUDDHA.

Expanse.—4" to 4½".

Habitat.—Southern India. Uncommon.

This Butterfly occurs all the year round except in June and July. Is very difficult to capture as it flies very quickly and high, seldom stopping at flowers.

48. **Papilio crino**, ♂ ♀.—Upperside almost uniformly dusted with green scales, a green or bluish band on both wings outside the cell, tail with metallic bluish green spot at the tip. Tornal ocellus claret-red with a large black centre inwardly edged with blue and a subapical yellowish grey spot. Subterminal diffuse green lunules in interspaces 2 to 4. Underside dull pale brown with a few scattered yellowish scales which on the forewing are absent from a large discal triangular patch. Hindwing with pale yellow submarginal transverse spots in a double row, each spot of the inner row bordered outwardly with blue. Fringe of both fore and hind wings brown alternated with white, at the tornal angle a claret-red ocellus. Body black above with a sprinkling of green scales.



Expanse.—4" to 4½".

Habitat.—Lower Bengal, Central and Southern India.

Plentiful at Kalar at the foot of the Nilgiri Hills. Flight very swift.

Fairly plentiful.

FIG. 48.—PAPILIOCRINO, ♂.

PLATE II.



PAPILIO GANESA.



PAPILIO PARIS.



PAPILIO ARCTURUS.

Plate 2:—Showing the differences in the ternal eye-spots of the undersides of the hindwings of *Papilio ganesa* *paris* and *arcturus*.

49. **Papilio evan**, ♂ ♀.—Ground colour of wings ochreous yellow with a darker shade towards base of same and dark brown terminal area with yellow spots.



FIG. 49.—**PAPILIO EVAN**, ♂.



FIG. 50.—**PAPILIO EVAN**, ♀.

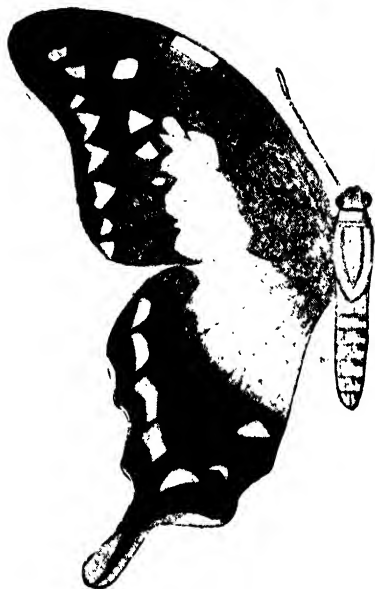


FIG. 51.—**PAPILIO GYAS**, ♂.

♀ only slightly larger than the ♂. Upperside opaque brown, the broad dark terminal area with a row of yellowish spots and similar spots on the disc of forewing. Undersurface with large chestnut-brown basal area, the middle of both

Forewing with strongly produced apex. Beneath, on the whole, lighter than above, the outer third darker than the middle of the wing with brown spots, often confluent. The ♀ much larger and paler than the ♂ with broader wings and similar dark markings.

Expanse.— $4\frac{1}{2}$ " to $5\frac{3}{4}$ ".

Habitat. Sikhim, Bhutan and hill ranges of Assam. Rare in Sikhim, plentiful in Khasia Hills, Assam. Female always scarce. Two broods in the year.

50. **Papilio gyas**, ♂ ♀.—Very similar to *P. evan*, but much darker, the apex of forewing not so produced and hindwing slightly broader.

and tipped with white. Underside: on the hindwing the inner discal band is broken, irregular and black and is bordered by a series of red spots edged with black. Antennæ black; head, thorax and abdomen whitish with a medial broad longitudinal stripe, beneath, the abdomen with lateral black stripes.

Expanse.— $2\frac{3}{4}$ " to $3\frac{3}{4}$ ".

Habitat.—Sikkim, Central and Southern India.

This form is so similar to, though somewhat darker than, *P. anticrates* which is next described that the illustration shown of the latter will suffice for both forms. Not rare.

57. **Papilio anticrates**, ♂ ♀.—Very closely resembles *P. nomius* from which however it can be distinguished as follows:—Ground colour whiter with a tinge of greenish in fresh specimens. No. 4 of the cellular bands of the forewing not extended to the median vein and the terminal series of spots of the ground colour linear and not round as in *P. nomius*. In the hindwing the discal band is obsolescent, being only faintly defined at the costa, terminal markings narrower. Underside dark markings bronze-brown.

Expanse.—3" to $3\frac{1}{2}$ ".

Not rare.

Habitat. Sikkim, Bhutan and Assam. Only one brooded, appearing in the spring.



FIG. 55.—PAPILIO ANTICRATES.



FIG. 56.—PAPILIO EURYPYLUS ♂.

Race axion.

58. **Papilio axion**, ♂ ♀. (*P. eurypylus*).—Upper-side black. Three short pale green streaks in cell and two near its apex, a broad discal band of pale green spots diminishing in size anteriorly and a few spots beyond to near the costa, a subterminal series of similarly coloured spots. Hindwing: a transverse band in continuation of the discal band of the forewing extends as far as interspace 2, the lower portion of this band pale green, the upper portion white; a subterminal series of pale green spots. Underside brownish black, markings similar, larger and of a silvery white slightly tinted with pale green. The hindwing has in addition a white basal streak extending half way down the dorsal margin, another shorter streak from costa to median vein followed by a black band interrupted by a bright red spot. Near apex of cell are some black spots and at bases of interspaces, all outwardly margined with crimson; a line of crimson along the dorsal margin. Antennæ, head, thorax and abdomen black; beneath, the thorax and abdomen touched with white, the latter with pale lateral stripes.

Expanse.—3" to 4".

Very common.

Habitat.—The Himalayas, Sikkim, Bhutan, Eastern Bengal and Assam.

59. **Papilio jason**, ♂ ♀. — (*P. eurypylus*).—This race can be distinguished from race *axion* as follows:—The markings that compose the discal band not so broad and all the spots and markings of pale green and white much smaller. On the underside of the hindwing the crimson spots not so conspicuous.

Expanse.—3" to 3½".

Habitat.—Southern India.

Common.

60. **Papilio bathycles**, ♂ ♀. —Very similar to the two foregoing forms but on the upperside the anterior markings all tinged with yellow and the spots of both wings well separated from one another. On the underside the crimson spots as in *axion* and *jason* replaced by orange-yellow, and a subterminal complete series of silvery white spots.

Expanse.—3½" to 4".

Habitat.—Sikhim and Assam.

Common.

61. **Papilio agamemnon**, ♂ ♀. —Upperside black with yellow-green spots of which those placed towards the base are in bands, particularly on the hindwing. Hindwing with tail which is longer in the ♀ than in the ♂. Underside paler, the green spots partly covered with white or brownish scales, both wings clouded with violet-grey. Hindwing between costa and cell has a black crescent which is basally margined with red, beneath this spot usually a distinct second arc, there is also often a red anal spot and in some specimens a row of red discal spots—the red spots sometimes replaced by yellow.

♀ Similar but with a streak of greenish white along the dorsal margin on both upper and under sides. Antennæ, head, thorax and abdomen black, thorax above and abdomen on sides streaked with greenish grey; beneath, the thorax is touched with pink.

Expanse.—3½" to 4".

Habitat.—Throughout India and Assam except in regions of scanty rainfall.

♂ Seldom caught. Common. ♀



FIG. 57.—*PAPILIO AGAMEMNON*.



FIG. 58.—*PAPILIO CLOANTHUS*.

62. **Papilio cloanthus**, ♂ ♀. —Upperside wings black the medial portion of the forewing pale transparent greenish yellow followed by three similar coloured patches towards the apex, divided by black bands. The broad discal patch of the forewing

continued on the hindwing in the form of a triangle, the hindwing in addition with 4 largish submarginal spots of the same colour. On the underside the dark markings paler than on the upperside, the hindwing with a red line at base and small red linear spots from the end of the cell to the anal angle, the last spot somewhat larger. Body black, head and thorax above with grey hairs, abdomen beneath yellowish white with 3 lateral whitish stripes.

Expanse.— $3\frac{1}{8}$ " to 4".

Not common.

Habitat.—The Himalayas, Assam, at lower elevations in the hills.

63. **Papilio sarpedon**, ♂ ♀.—Upperside brownish black. Fore and hind wings crossed by a green or green-blue discal band which is strongly narrowed towards the apex and separated there into spots while fining to a point posteriorly on the hindwing, the costal portion of the band on the hindwing white. Hindwing with a subterminal line of slender green or blue lunules. Undersurface paler than the upper, the discal band scaled with transparent whitish of a mother-of-pearl gloss. Forewing with slight indications of submarginal spots before the tornal angle; hindwing near the base with red transverse bar which extends from the costal margin to the cell and is separated from the discal band. Five red discal spots of which the anterior one encircles the apex of the cell. ♀ Similar to the ♂, but paler and somewhat broader-winged. Body above brownish black with brown-grey hairs, beneath, mostly whitish grey.

Expanse.— $3\frac{1}{4}$ " to $3\frac{3}{4}$ ".

Habitat.—The Himalayas, South-Western India and throughout Assam at low elevations.

Very common.

The males are found in large numbers on wet places on the roads and sandy river-beds. Flight very rapid.



FIG. 59. PAPILIO SARPEDON.

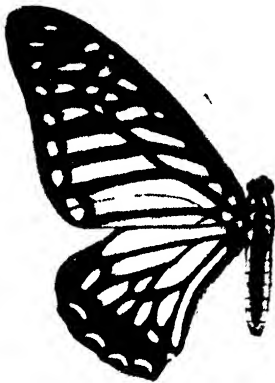


FIG. 60.—PAPILIO MACAREUS.

64. **Papilio teredon**, ♂ ♀.—Very similar to the foregoing, distinguishable by the narrower medial band that crosses both wings and the hindwing is much more strongly dentate at apex of vein 3.

Expanse.—3" to $3\frac{1}{2}$ ".

Common.

Habitat.—Southern India.

65. **Papilio macareus**, ♂ ♀.—Wings above black or brownish black with white or greenish white markings. ♂. Cell of the forewing with 3 stripes which

are sometimes broken up into small spots, and 2 apical spots. Outside apex of cell a row of 4 dots and widish stripes in the interspaces of the discal area and finally a subterminal series of rounded spots. Hindwing from the base striped with white, the cell entirely or for the most part white, with black transverse line before the apex and a row of submarginal spots. The ♀ much darker. Rarely in the ♂ is a small yellow anal spot on the hindwing. Antennæ, head, thorax and abdomen black, head and body spotted and striped white.

Expanse.— $3\frac{1}{4}$ " to 4".

Common.

Habitat.—The Himalayas and Assam.

Fairly common. The males congregate in swarms at wet places. The females are taken singly in the woods on flowers on which they rest with the wings closed.



FIG. 61. —PAPILIO XENOCLES.

66. **Papilio xenocles**, ♂ ♀. —Very similar to *P. macareus* but considerably larger, the wings broader and the light stripes larger. The hindwing always with a yellow tornal spot.

Expanse. $3\frac{1}{2}$ " to $4\frac{1}{4}$ ".

Habitat.—Sikkim, Bhutan and the hills of Assam.

Common.

67. **Papilio megarus**, ♂ ♀. —Upperside black with white streaks and spots. Cell of the forewing with a small spot at base and three obliquely transverse streaks in middle and two spots at apex. Two slender streaks in interspace 1 and a broader streak in interspace 2. Above these a series of small spots and a complete subterminal series of spots. Hindwing: a streak in cell and a spot above and beyond its apex, streaks followed by spots in the interspaces and a subterminal series of lunules. Underside similar but with slightly broader markings. The ♀ has the ground colour duller. In specimens from Assam the cell spots of the forewing are small above and almost entirely absent beneath. Body above black, sides of thorax with greenish grey hairs, head spotted with white. Underside of body white without black median lines to the abdomen.

Expanse.— $2\frac{1}{4}$ " to 3".

Habitat.—The Himalayas and Assam.

The males are common and found congregated on moist sand, the females singly in the jungle.



FIG. 62.—PAPILIO MEGARUS.

Genus—*PARNASSIUS*.

The Parnassiids are distinguished from the Papilionids by the absence of the transverse vein between the median and submedian veins near the base of the forewing and the hind marginal vein of the hindwing, but the most striking peculiarity is the hard anal pouch of the female which becomes extended after fertilization. Wings broad and semi-transparent. Body hairy, antennæ short, with stout club. Most of the forms of *Parnassius* are exceedingly variable in size and in the distribution of the dark scaling on the wings, also in the shade of ground colour and in the number and size of the crimson spots which may or may not have white centres.



FIG. 63. *PARNASSIUS JACQUIMONTI*, ♀.
Upper and underside.

68. *Parnassius jacquimonti*,

♂ ♀. Upperside creamy white; both wings covered with diffuse black scales; body, base of wings and the dorsum of the hindwing clothed with white hairs. Forewing: a bar across middle of cell, another at its apex and a transverse series of post-discal lunules black; three or four black encircled crimson spots placed as follows:—One in interspace 1, and two, sometimes three beyond apex of cell. Hindwing: base and dorsal area densely covered with black scales, the rest of the wing with more diffuse black scaling; five or six black encircled crimson spots, these are generally centered with white, one pure crimson spot at base of wing. Underside: marking much as on the upperside but indicated more by the markings of the upperside showing through. In addition on the hindwing there is a subbasal transverse series of four dull crimson spots. Similar but darker and the crimson spots larger and more brilliant.

Expanse.—2" to 3¼".

Fairly common.

Habitat.—Sikhim, Kashmir, Chitral, the Himalayas at about 12,000 feet elevation.



FIG. 64.—*PARNASSIUS EPAPHUS*,
(*Sikhimensis*.)

69. *Parnassius epaphus*, (*sikhimensis*) ♂ ♀.—Closely resembles *P. jacquimonti* but is very much smaller, and somewhat more densely covered with black scales.

Expanse.—2" to 2½".

Common.

Habitat.—Sikhim on the Tibetan border at an altitude of 16,000 to 19,000 feet.

The typical form *P. epaphus* has an expanse of 2½" to 2¾" occurring in the N. W. Himalayas at 15,000 feet in July and August. Locally common at Ladak.

70. **Parnassius hardwickii**, ♂ ♀ —Creamy white. Forewing: base and costal

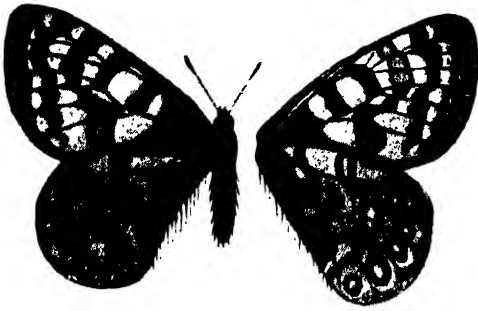


FIG. 65. —*PARNASSIUS HARDWICKII*.

margin thickly dusted with black scales, a black bar across middle of cell, another at apex of cell and a third beyond apex of cell bearing spots of crimson, a curved prominent series of dusky-black spots, the terminal margin broadly dusky black, a crimson centered black spot in interspace 1. Hindwing: a crimson centered black spot near base of interspace 5, another beyond middle of interspace 7, followed by a curved post-discal series of five dull blue ocelli ringed with black and centered white. Underside similar with a glazed

appearance, markings visible by transparency from the upperside. On the hindwing a broad basal band of four crimson spots, the lower three forming an oblique transverse band above the tornal angle; all the crimson spots encircled by black rings and the following centered with white—the spot in interspaces 2 and 5 and the basal and medial spots in interspace 7. Similar, darker and the crimson spots larger with an additional spot in interspace 6 of forewing and pretornal spot on the hindwing.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—Kashmir, Sikkim and Tibet.

Common.

The smaller Sikkim race (*P. viridicans*) is dusted with dark green beneath, particularly in the female. *P. hardwickii* is decidedly the most brightly coloured species of all the Parnassiids with a wide range of variation. Flying with this species may be taken the rarer *P. acco* and *simo*. In Kashmir and Simla the species occurs all the year round where it is certainly two brooded.

71. **Parnassius delphius**, ♂ ♀.—Upperside dull white, base and costal margin of forewing and dorsal area of hindwing dusky black. The forewing crossed with black longitudinal bands, the hindwing with a black encircled red spot in interspace 5 and a subterminal series of dark spots in the interspaces which in the female are dusted with blue.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—N. W. Himalayas, Sikkim, 16,000 to 19,000 feet.

Rare.



FIG. 66.—*PARNASSIUS DELPHIUS*, ♀.

72. **Parnassius charltonius**, ♂ ♀.—Distinguished by the gorgeous, very large, quadrate light red ocelli and the large black blue centered submarginal spots of the hindwing. No red basal spots on the hindwing beneath, instead of these is a black area densely covered with yellow scales.

Expanse.—3" to 3 $\frac{3}{4}$ ".

Not common.

Habitat.—Ladak, Chitral, Tibet at elevations from 9,000 to 15,000 feet.

73. **Parnassius imperator**, ♂ ♀. (*race augustus*).—Ground colour canary yellow. Markings of forewing very similar to the foregoing. Hindwing: an upper



FIG. 67.—**PARNASSIUS CHARLTONIUS**, ♀.



FIG. 68.—**PARNASSIUS IMPERATOR**, ♀ (*augustus*.)

basal black-encircled crimson spot, another in the middle of interspace 7, and a third in interspace 5, the latter two centered with white. In interspaces 2 and 3 are two prominent round black subternal spots, broadly centered with blue.

Expanse.—3" to 3 $\frac{1}{3}$ ".

Not common.

Habitat.—Eastern Himalayas, Sikkim and Tibet at altitudes between 15,000 and 16,000 feet.

74. **Parnassius simo**, ♂ ♀.—The smallest species known as yet. Weakly coloured, with small dark-border eye-spots on the hindwing. Distinct spots forming submarginal band.

Expanse.—2".

Habitat.—Only a very few specimens are known to have been taken in Sikkim and Tibet at an elevation of 16,000 feet. Very rare. Somewhat similar to the next described.



FIG. 69.—**PARNASSIUS SIMO**.

75. **Parnassius acconus**, ♂.—Of somewhat more imposing appearance, with light red ocelli and continuous sub-marginal band which is not broken up into single spots as in *P. simo*. Wings narrower.

Expanse.—2" to 2 $\frac{1}{4}$ ".

Habitat.—Kambajong in Tibet at an elevation of 16,000 feet.



FIG. 70.—**PARNASSIUS ACCONUS**.

Very rare.

76. **Parnassius acco**, ♂ ♀.—Is distinguished from *P. simo* by the glassy appearance of the underside and the larger darker red ocelli and broader black markings.

Expanse.—2" to 2½".

Exceedingly rare.

Habitat.—The Himalayas, Karakoram to Sikkim and Kambajong in Tibet.

77. **Parnassius sulphurus**, ♂ *nov. sp.*—A single specimen of the ♂ was presented to me in 1913 by the late Mr. Paul Möwis of Darjeeling, who told me he had found it amongst a large collection of butterflies brought to him by a native collector from Tibet, the exact locality of its capture not being known.



FIG. 71. *PARNASSIUS*
SULPHURUS, ♂.

This form differs very considerably from all others of this genus in that it is of uniform pale sulphur-yellow with the following markings formed by dustings of dark scales. Upperside, forewing: the base, along the costa, a broad bar across middle of cell and apical area of cell thickly dusted with dark scales; a post-discal band and apical area of cell thickly dusted with dark scales; a post-discal band and apical area very faintly defined by grey scales. Hindwing: the base and dorsal area extending well into the cell thickly dusted with dark scales, terminal border narrowly and lightly dusted with grey scales which latter are continued a short distance along the veins. The veins of both wings conspicuously black. Underside of a glassy appearance, all the dark markings of the upperside

showing through. Thorax and abdomen above black with grey hairs, the collar bright orange. On the underside, thorax black, abdomen and femora of legs orange-yellow.

Expanse.—3".

Habitat.—Tibet. The exact locality is uncertain but this single specimen was probably taken in the neighbourhood of Kambajong

Family.—PIERIDÆ.

“WHITES.”

In the Pierids in general the contour of the wings is rounded. In venuration they are nearest to the Papilionids from which, however, they are distinguished by the proportionately larger hindwing. Tails which are usually found in the Papilionids are entirely absent in this family.

The colouration in the majority of the forms is white, which accounts for the popular name this family has acquired of “The Whites,” but nearly throughout there is a great contrast between the unicolourous upperside and the vivid red, yellow and orange markings of the underside.

Their peculiar migratory instinct and irresistible impulse to congregate in swarms is most striking. Clouds of the butterflies of the *appias* and *catopsilia* genera at certain times are seen migrating all in the same direction and usually against the wind, passing by for hours at a time during the heat of the day and for several days in succession.

The commonest of the Pierids are flying mostly all the year round and the several generations or broods overlap.

Genus—LEPTOSIA.

78. **Leptosia xiphia**, ♂ ♀.—Upperside white, base of wings and costa powdered with minute black scales, apex black and a large post-discal spot also black on the forewing. Hindwing uniform white with the markings of the underside showing through. Underside: costal margin, and apex of forewing and the whole surface of the hindwing finely marked with very slender greenish lines and spaces, forming traces of two or more obscure transverse bands; a black post-discal spot on the forewing as on upperside.



FIG. 72. LEPTOSIA XIPHIA.

Expanse. — $1\frac{1}{2}$ " to 2". Common.

Habitat.—Distributed over the whole of India.

Notes.—A very delicate butterfly, known by the popular name of “The Wandering Snow-flake” on account of its appearing sometimes in countless numbers and having a slow but irregular flight.



FIG. 73.—DELIAS EUCARIS, ♂.

Genus.—DELIAS.

79. **Delias eucharis**, ♂ ♀.—Upperside white, the veins broadly black; the hindwing with large sub-marginal spots pink due to the bright red colouration

of the underside showing through. Underside: forewing similar but with the apex tinged with yellow. Hindwing bright yellow with vermilion-red submarginal spots narrowly edged with white.

Expanse.—3" to 3 1/3".

Common.

Habitat.—Practically the whole of India.



FIG. 74.—*DELIAS HIERTA*, ♂.
Underside.

80. ***Delias hierta***, ♂ ♀.—Similar to *D. eucharis* but with the black markings more diffuse. In the hindwing the black venation and terminal black border as also the submarginal vermilion-red spots of the underside show through by transparency. The ground colour of the underside of the hindwing a much deeper yellow than in *D. eucharis* and the post-discal black band wanting. The submarginal red spots increase in size from apex to tornus.

Expanse.—3" to 3 1/4".

Fairly common.

Habitat.—The Himalayas, Sikkim, Bengal and throughout Assam.

81. ***Delias descombesi***, ♂.—Upperside white. Forewing: costa and terminal margin narrowly black; extreme base and apex thickly dusted with black scales. Hindwing: termen narrowly black, the dark markings of the underside showing through by transparency. Underside: forewing black; a broad spot at end of cell and a subterminal series of spots and streaks white. Hindwing bright yellow, costa and termen black with yellowish white spots on the black terminal margin. An oval vermilion streak near base of wing in interspace 7.

♀ Upperside black. Forewing: an oblique bar and a curved subterminal series of spots white. Hindwing: apical area of costa and termen broadly black, the remainder of the wing yellowish white dusted with black scales the vermilion streak on the underside showing through by transparency and a series of whitish spots in the terminal black border. Underside: forewing as in the ♂ but with the grey streaks narrower.

Hindwing: the bright yellow of the ♂ replaced by dull white tinged with yellow on the dorsal margin and in the cell. The interspaces and cell dusted with black scales. A large vermilion-red spot at base under the costa.



FIG. 75.—*DELIAS DESCOMBESI*, ♀.
Underside.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ".

Common.

Habitat.—Sikhim, Bhutan, Assam, Cachar and Sylhet.

82. **Delias thysbe**, ♂ ♀.—Upperside: forewing black with a grey patch at apex of cell, a post-discal series of broad grey streaks. Hindwing black with basal area to middle of cell vermillion traversed by the black veins, broad diffuse grey streaks in the interspaces not reaching the termen; a portion of interspace 2 bright yellow. Underside similar to the upperside, the grey markings paler: hindwing in both sexes with the basal vermillion patch extending to the base of the dorsal margin. Apex of cell and broad streaks and spots in interspaces 1 to 8 yellow.

Expanse.—3".

Common.

Habitat.—Sikhim, Bhutan, Assam, Cachar.

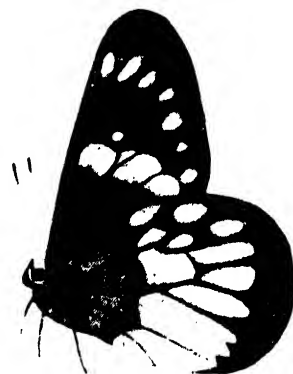


FIG. 76.—*DELIAS THYSBE*, ♂.
Underside.

83. **Delias aglaia**, ♂ ♀.—Similar to *D. thysbe* in both sexes but differing as follows:—Upperside: forewing with an oval white spot at apex of cell. Hindwing with a large bright yellow dorsal patch filling the apical two-thirds. Underside: hindwing with a dark red patch at base, a yellow dorsal patch as on the upperside but darker. ♀ greyer, the basal red patch of the underside of the hindwing seen through by transparency. Markings paper and broader than in the ♂.

Expanse.— $2\frac{3}{4}$ " to $3\frac{1}{2}$ ".

Common.

Habitat.—Nepal, Sikhim, Assam.



FIG. 77.—*DELIAS AGOSTINA*, ♂.
Underside.

84. **Delias agostina**, ♂.—Upperside: both fore and hindwings white; on the forewing the costa is narrowly and apex broadly shaded with black, the colour of the underside of the hindwing seen through by transparency. Underside: forewing with all the veins broadly black. Hindwing: canary-yellow with a dusky black terminal border on which is a series of white lunular marks in the interspaces. ♀ Forewing entirely shaded with black on upperside with paler cell and discal area and with a series of preapical white spots. Hindwing: Upperside in the dry season form light orange and in the wet season form dark orange colour. Underside as in the ♂, but the white spots on the terminal black border of the hindwing larger.

Expanse.—2" to $2\frac{3}{4}$ ".

Not common.

Habitat.—The Himalayas, Nepal, Sikhim, Assam.

85. ***Delias belladonna***, ♂ ♀.—Upperside dusky black, the ground colour of the ♀ being paler and markings less distinct. Forewing: cell with an apical bar, a streak in cell, a discal series of streaks and a subterminal series of rounder spots dusky white. Hindwing: dorsal area whitish with the apical half tinged with canary-yellow, a large canary-yellow patch at base under costa, a discal series of 4 and a subterminal series of 5 dusky white spots. Underside duller black. Forewing: markings as on upperside but more distinct, the three upper spots of the submarginal series canary-yellow. Hindwing: base of interspace 8, a large patch at base of interspace 7 bright canary-yellow followed by a white spot, a discal series of dusky yellow spots and a subterminal series of larger bright canary-yellow spots; dorsal area dusky yellow. The 2 upper discal spots almost white. Body black, abdomen beneath white.

Expanse.— $2\frac{3}{4}$ " to $3\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas, Bhutan, Assam.

Note.—In some specimens the basal spot of the hindwings is orange-red.

Genus.—PRIONERIS.

86. ***Prioneris thestylis***, ♂.—Upperside white; the veins, costa and apical third black; underside black variegated with white and yellow markings. ♀ both



FIG. 78.—*DELIAS BELLADONNA*, ♂.
Underside.

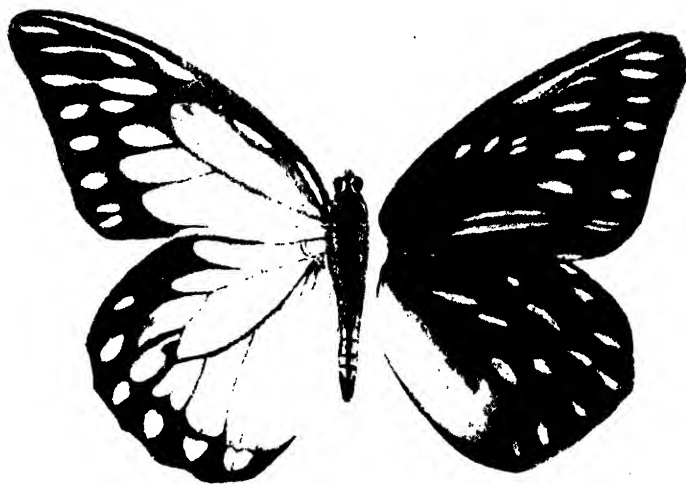


FIG. 79.—*PRIONERIS THESTYLIS*, ♂ ♀.

upper and under sides deep brownish black with white spots and streaks. The basal three-fourths of the dorsal area of the hindwing whitish and suffused with yellow at its apex. On underside of hindwing all the spots and streaks larger and more clearly defined. Two or three subterminal markings on the forewing and the dorsal area of the hindwing rich yellow.

Above is the description of the wet season form, the dry season form is on the underside tinged with black only at the apex; only the undersurface of the forewing of the ♀ is entirely black like that of the rainy season form.

Expanse.—3" to 4".

Common.

Habitat.—Himalayas, Sikhim, Bhutan and throughout Assam.

87. **Prioneris clemanthe**, ♂ ♀.—Upperside white, the veins black. On the forewing the apical area black with narrow streaks of the ground colour, costa black; the hindwing with a slender terminal black line. Underside: forewing white, the veins broadly black. Hindwing yellow, precostal area vermilion red, veins black and prominent, a broad subterminal band white and a narrow terminal edging black. ♀ Forewing above dusky black with grey streaks in the cell and interspaces, beneath similar. Hindwing white with a broad terminal black border traversed by a series of white spots. The underside of the hindwing as in the ♂ but the black edging to the veins much broader; the terminal black band with an inner series of large yellow spots.

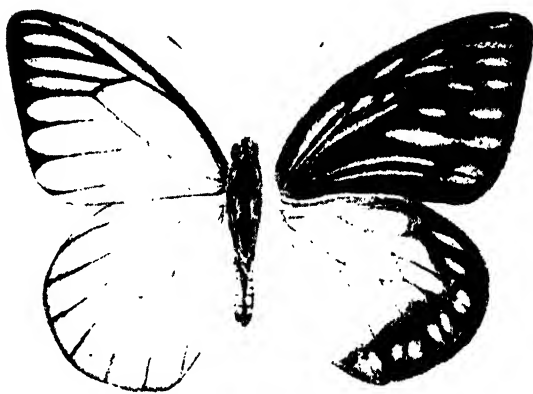


FIG. 80. PRIONERIS CLEMANTHE, ♂ ♀.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ".

Not rare.

Habitat.—Sikhim, Bhutan, Assam.

88. **Prioneris sita**, ♂ ♀.—Upperside white with black veins. Underside very similar to *Delias eucharis*, but with quadrate instead of roundish vermilion-red submarginal spots on the hindwing and yellow instead of white apex to the forewing. ♀ Similar to the ♂, but with black transverse lines between the veins of the hindwing.

Expanse.— $3\frac{1}{2}$ ".

Habitat.—Southern India.

Common.

Note.—*P. sita* flies in company with *Delias eucharis* of which it is a good mimic; it may be distinguished by its more jerky and rapid flight.

Genus.—ANAPHILÆIS.

89. **Anaphæis mesentina**, ♂ ♀.—Upperside of both fore and hind wings white. Forewing with a spot at apex of cell and apical area black, the latter with 6 streak-spots of the ground colour. Hindwing: the termen black with a series of 4 rounded spots of the ground colour in the interspaces. Underside: forewing similar to upperside. Hindwing pale yellow in the dry season form and dark to orange-yellow in the wet season form. All the veins broadly bordered with black and terminal area somewhat as on upperside. In the ♀ the black markings on both upper and under sides broader. Body white.



FIG. 81.—ANAPHILÆIS
MESENTINA, ♀.

Expanse.— $1\frac{3}{4}$ " to $2\frac{1}{2}$ ".

Very common.

Habitat.—The Himalayas, Sikhim, Southern India.

Note.—Inhabits the hot lowlands but also ascends to 8,000 feet. A slow flier and often resting on the ground. The time of appearance is very uncertain, sometimes occurring only twice in the course of 5 years. Is one of the "Whites" that migrate in swarms in the years that they occur.

Genus.—BALTIA.

90. **Baltiasikhima**, ♂ ♀.—Upperside white, the base of the wings densely and the remainder sparsely dusted with black scales. A black spot at apex of cell, a subterminal band and 5 black terminal spots black on the forewing. The hindwing more thickly dusted with black scales on a dirty white background. Two spots at apex of cell, a subterminal series of spots black. Underside: markings as on upperside but the subterminal and terminal spots formed into streaks and with the addition of a long yellow streak in cell and in the interspaces streaks of the same colour. On the forewing the yellow streaks are confined to the apical area only.



FIG. 82.—BALTIA SIKHIMA.

Expanse.— $1\frac{1}{2}$ " to 2".

Rare.

Habitat.—Kambajong (S. Tibet), on the border of Sikhim at elevations of from 12,000—16,000 feet.

91. **Baltia shawi**, ♂ ♀.—Similar to the above-described species, but with the underside of the hindwing violet-grey and with black vein-stripes

Expanse.— $1\frac{1}{2}$ " to 2".

Very rare.

Habitat.—North-West Himalayas, Kashmir, Karakoram.



FIG. 83.—B. BUTLERI, B. SHAWI.
Hindwings.

92. **Baltia butleri**, ♂ ♀.—Also similar to the above: underside with fine brown longitudinal stripes at both sides of the veins.

Expanse.— $1\frac{1}{2}$ " to 2".

Rare.

Habitat.—Ladak, Kashmir, Karakoram, 15,000 to 18,000 feet.

Genus.—*APORIA*.

93. ***Aporia soracte***, ♂ ♀.—Upperside dirty white with the veins black and a subapical black band on the forewing; base of wings with dusky black scales. Underside white, costa and apex of forewing and the hindwing all over a pale yellow, the pre-costal area of hindwing chrome-yellow. Antennæ black, body white.

Expanse.— $2\frac{1}{3}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—N. W. Himalayas, Kashmir.

Note.—Appears in April and May, frequenting the edges of woods, never in open country; ascends to 14,000 feet.

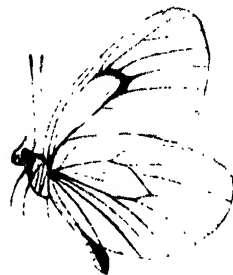


FIG. 84.—*APORIA SORACTE*,
Underside.

94. ***Aporia balucha***, ♂ ♀.—Very similar to *A. soracte* but smaller and from which it differs in the broader black bands on both wings and the distinct orange-coloured stripes at the costal margin and the darker yellow under-surface of the hindwing.

Expanse.— $1\frac{3}{4}$ " to 2".

Habitat.—N. W. Himalayas.

95. ***Aporia nabellica***, ♂ ♀.—Similar to the two foregoing but with the wings so densely overlaid by black scales as to make it appear uniformly black, leaving only a subterminal series of white spots apparent. On the underside the hindwing is dark yellow and apex of forewing slightly tinged with yellow. Body black above, beneath whitish.

Expanse.— $2\frac{1}{4}$ " to $2\frac{3}{4}$ ".

Habitat.—Kashmir, Naini Tal.

Note.—Kashmir forms are lighter.

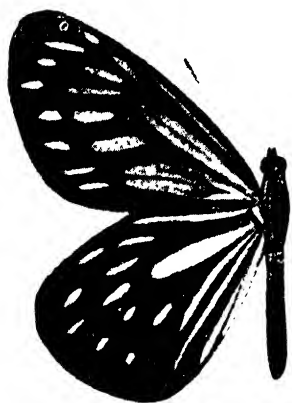


FIG. 85.—*APORIA AGATHAN*.

96. ***Aporia agathon***, ♂ ♀.—Very variable. Upperside black with broad grey stripes in and below the cell and two rows of whitish spots in the submarginal region of both wings. On the underside of the hindwing a large bright yellow precostal spot. Body black, abdomen beneath white.

Expanse.—3" to $3\frac{3}{4}$ ".

Common.

Habitat.—Nepal, Sikkim, Bhutan and Assam.

97. ***Aporia harrietæ***, ♂.—Upperside: both wings black, distinguished by a complete row of white oblong spots across the cellular area on the forewing and the yellowish white underside of

the hindwing; the usual bright yellow precostal spot, characteristic of the genus, on the hindwing and elongated pale yellow streaks in pairs in each interspace. ♀ differs from the ♂ in being somewhat paler throughout.

Expanse.—2" to 3".

Rare.

Habitat.—Bhutan; very local, only a few specimens recorded.

Genus—PIERIS.

98. **Pieris rapae**, ♂.—Upperside white, base of both wings and costa of forewing dusted with black scales, the forewing has a round black spot in the middle of interspace 3. Hindwing uniform with a black short diffuse spot in interspace 7, that crosses that vein to the costa. Underside white. Forewing: costal margin and upper half of cell dusted with black scales, apex faintly cream black colour; a black spot in interspace 3 as on upperside and another below it in interspace 1. Hindwing: cream colour, dorsal margin white. ♀ Similar to the ♂, the white slightly tinged with cream colour; the additional black spot in interspace 1 of the underside also present on the upperside.



FIG. 86.—PIERIS RAPAE, ♂.

Expanse.—2".

Common.

Habitat.—N. W. Himalayas, Kashmir.

99. **Pieris brassicae**, ♂.—Upperside creamy white. Forewing dusted with black scales at base and along costa; apex and termen above vein 2 black. In some specimens a black spot in interspace 3. Hindwing with black scales at base, black subcostal spot near apex and in some specimens black spots at the apices of the veins. Underside: forewing as on upperside, but with a large black spot in interspace 1, apex yellowish. Hindwing yellowish dusted with minute black scales. Body black with some white hairs, beneath whitish. ♀. Similar to the ♂ with the black markings broader; a conspicuous black spot in interspace 1. On the underside the apex of the forewing and the side the apex of the forewing and the whole surface of the hindwing light brownish yellow.

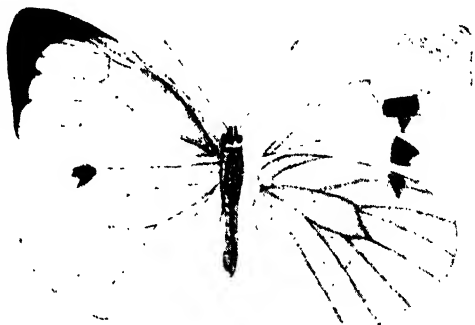


FIG. 87.—PIERIS BRASSICAE.

Expanse.—2½" to 3".

Very common.

Habitat.—The Himalayas and N. W. of India to Umballa, Sikhim, Bhutan.

100. **Pieris naganum**, ♂ ♀.—Very similar to *P. brassicae* with the addition of a black spot at end of cell and the black spot in interspace 3 joining up with the black on the termen. Upper surface pale yellowish white. Hindwing beneath pale yellow.

Expanse.—2".

Very rare.

Habitat.—The Naga Hills, Assam; only 1 or 2 specimens have hitherto been recorded.

101. **Pieris deota**, ♂ ♀ —Resembles *P. brassica* and is distinguished by the uniform black margin of both wings and the blue-grey colour of the undersurface.

Expanse.—2¼" to 2½".

Habitat.—Kashmir

Very rare.

102. **Pieris canidia**, ♂ ♀ — Upperside, forewing: base and upper margin of cell dusted with black scales, apex and terminal margin black, a round black spot in interspace 3. Hindwing; a subcostal black spot as in *P. rapæ*, and a series of 4 or 5 terminal black spots at the apices of the veins. Ground colour of both wings white to cream. Underside: forewing white, cell and costa dusted with black scales, apex yellow, interspaces 1, 3 and 5 with black spots. Hindwing from white to darkish yellow thickly dusted with black scales; costa above vein 8 chrome-yellow. In the ♀ the black scales are more extended and the black markings broader; an additional spot in interspace 1 on the forewing. The underside is similar to that in the ♂. Body above black and greenish grey, the underside white.

Expanse.—1½" to 2 1/3".

Common.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam and Southern India.

Note.—A very variable butterfly, occurring all the year round; ascends from the plains up to 12,000 feet.



FIG. 88.—PIERIS CANIDIA ♂.

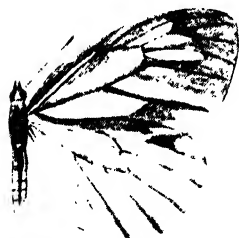


FIG. 89.—PIERIS NAPI.

103. **Pieris napi**, ♂ ♀ —Upperside white, veins conspicuously black, base of forewing dusted with black scales, apex and terminal border down to vein 2 black, and a black spot in the outer half of interspace 1. Hindwing with a black subcostal spot. Underside: veins margined with black, apex of forewing and the whole surface of hindwing tinged with yellow, base of costa of hindwing bright yellow. The ♀ is much darker than the ♂, all the markings broader. Body above black with whitish hairs and scaling, beneath whitish.

Expanse.—2".

Common.

Habitat.—N. W. Himalayas, Sikkim, Bhutan and the hills of Assam.

104. **Pieris chumbiensis**, ♂ —Upperside white. Forewing veins black, costal and terminal margins black, apex broadly black, a round black spot in inter-

space 3, base of wing dusted with black scales. Hindwing: dark greyish in appearance due to the markings of the underside showing through. Veins black; a black costal spot near apex and base of wing heavily dusted with black scales. Underside: forewing white, veins edged with black scaling, spot in interspace 3 as on upperside, apex and terminal margin tinged with yellow. Hindwing yellow, veins broadly black; precostal area edged with deep yellow.

Expanse.—2" to 2½".

Very rare.

Habitat.—Sikhim.

105. **Pieris krueperi**,



FIG. 90.—PIERIS KRUEPERI, ♂.

♂.—Upperside: white. Forewing: a dusting of black scales along base of costa, a costal black spot before the apex, the apex black, terminal black spots at apices of veins 4 and 5, and a large black spot in the outer half of interspace 3. All these black markings coalescent. Hindwing: a black costal spot just before the apex. Underside, forewing: markings similar to those on the upperside but the black at apex and termen replaced by greenish yellow. Hindwing: basal two-thirds thickly dusted with black scales, but for a short oblique band of the

ground colour extending from the middle of the costa to within the cell. ♀. Similar, but the markings on the upperside of the forewing broader and more conspicuous. On the hindwing, most specimens have an additional spot in interspace 3, and in some a series of detached terminal black spots at the apices of the veins. Underside: as in the ♂, but on the hindwing the terminal series of black spots dull and washed over with a greenish tint. Body above, dark; below whitish.

Expanse.—1¾" to 2½".

Habitat.—Kashmir, where it is not very rare.

106. **Pieris daplidice**, ♂.—Upper and under sides white. Upperside, forewing: basal half of costa dusted with black scales, a large black spot at apex of cell, apex and termen above vein 3 broadly black with a series of spots of the ground colour continued as fine lines to the terminal margin. Hindwing uniform, the markings of the underside showing through, base of both fore and hind wings black. Underside, forewing: markings as on upperside, but the base of the cell dusted with green scales, the cell-spot extended to the costa washed with green, the apical markings green, not black, a dark spot in interspace 1. Hindwing: green with three curved series of white spots. Body above, black: beneath



FIG. 91.—PIERIS DAPLIDICE, ♂.

white. ♀. The dusky black markings broader and more extended and a black spot in interspace 1 on the forewing. On the hindwing a large costal black spot before apex, a black subterminal curved band and a terminal series of black marks. The markings of the underside same as in the ♂ but broader.

Expanse.—2" to 2½".

Not uncommon.

Habitat.—Western Himalayas, Kashmir.

107. **Pieris glauconome**, ♂ ♀.—Almost identical with *P. daplidice*, but the hindwing on upperside has a series of four small black terminal spots at the apices of veins 3 to 6, three of which are joined together on the inner side by black loops. The underside of the hindwing has the green colouration much restricted, the veins conspicuously lined with yellow. In the ♀ the markings are clearer and larger.

Expanse.—1½" to 1¾".

Common.

Habitat.—Punjab. (Might be regarded as a local race of *P. daplidice* if the caterpillar and chrysalis were not described as different).

108. **Pieris chloridice**, ♂ ♀. *Expanse*.—1½" to 2".

109. **Pieris callidice**, ♂ ♀. *Expanse*.—2" to 2 1/3".

Both somewhat similar to *P. daplidice* and occurring in Kashmir at high altitudes.

Genus.—SYNCHLOE.

110. **Synchloe lucilla**, ♂ ♀.—Upperside lemon-yellow. Forewing with a black transverse spot at apex of cell; apical area edged with black. Hindwing uniform. Underside pale yellow with white dots on the costal margin of forewing. The hindwing is dusted with black scales, has white costal spots and a white spot at apex of cell. ♀. Slightly larger with more extended black markings.

Expanse.—1 1/3" to 1½".

Not rare.

Habitat.—Punjab.

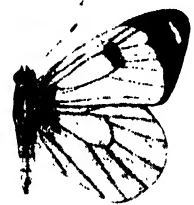


FIG. 92.—SYNCHLOE LUCILLA, ♂.



FIG. 93.—SYNCHLOE BELIA.

Underside.

111. **Synchloe belia**, ♂ ♀.—Upperside white, base of wings dusted with black scales. Forewing: costa spotted with black, a black spot at end of cell and a couple of black pre-apical oblique bands. Hindwing uniform, the markings of the underside showing through by transparency. Underside: forewing creamy white, the cell-spot black centered with white, apex checkered with dark brown overlaid with greenish scales, the interspaces silvery. Hindwing: markings very variable. Wings covered with fine greenish yellow bands and lines; the interspaces shining silvery white.

Expanse.—1 1/3" to 1¾".

Not rare.

Habitat.—Kashmir, Punjab.

Genus.—HUPHINA.

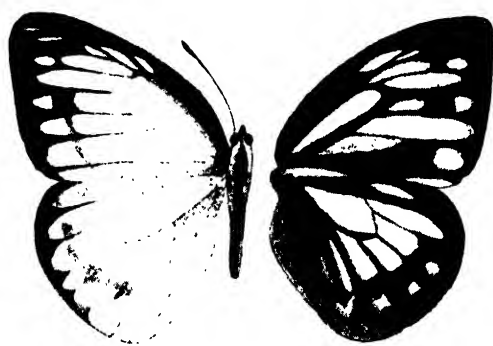


FIG. 94.—HUPHINA NERISSA.

112. **Huphina nerissa**, ♂.—Very variable, there is a wet season and a dry-season brood, in the latter the black markings are much restricted and often obsolete. A white butterfly with the costa, veins, apex and termen black, and spots of the ground colour in the terminal border. On the underside the costa and apex tinged with yellow on the forewing, the hindwing being entirely suffused with yellow. ♀ The black markings so much broader and extended that in some specimens very

little of the ground colour is apparent.

Expanse.—2" to 3".

Common.

Habitat.—Nepal, Sikhim, Bhutan, Bengal, Assam.

113. **Huphina nadina**, ♂.—Upperside white. Forewing: basal half of costal margin tinged with greenish yellow and sparsely dusted with black scales. Apex and termen black produced inwards along the veins. Hindwing: terminal margin broadly black due to the markings of the underside showing through. In some specimens the apices of the veins bear a black spot. Underside white. Forewing: costal margin and apex broadly covered with greenish yellow and dusted with black scales; a preapical oblique band bright yellow. Hindwing greenish yellow, a broad white streak in the cell and the whole wing dusted heavily with black scales; these form a lower discal dark patch and a broad terminal marginal, the space between the two, bright yellow; a bright yellow spot also in interspace 6.

♀. Much darker; upperside as in illustration which shows the extreme dark form of the wet-season brood. The amount of white is more in some specimens which on the forewing have nearly the whole of the cell, and a large portion of interspace 1 also white. Underside similar to that of the ♂, but the white area much restricted and of a purplish tint. Hindwing darker than in the ♂. That of the dry-season brood, beneath grey instead of greenish yellow.

Expanse.—2½" to 3".

Common.

Habitat.—Sikhim, Bhutan, the hills of Assam, Cachar, Manipur and Sylhet.

114. **Huphina remba**, ♂ ♀.—The Southern India race of *H. nadina* but differs from that form in the black margin of the forewing extending to the cell and in having the upperside of the hindwing dusted with blue-grey, apex of the forewing and the upperside of the hindwing greenish yellow with smoke-brown spots. ♀ Beneath as in the ♂ and above with a more obliquely placed white central area



FIG. 95.—HUPHINA NADINA, ♀.

on the forewing. The dry-season form is beneath lighter grey-green and both wings correspondingly more narrowly margined with black.

Expanse.—2" to 2½".

Common.

Habitat.—Southern India. A forest butterfly, occurring all the year round.

Genus.—IXIAS.

115. ***Ixias pyrene***, ♂.—Upperside: ground colour of both wings sulphur-yellow. Forewing: base and a short distance along the costa thickly dusted with black scales, apical half of the wing black enclosing a large orange coloured patch which extends into the apex of the cell, a black spot at end of cell joined to the black at the base of the orange patch; veins crossing the orange patch black. Hindwing uniform with slight black scaling at base; termen with a dusky black border which in some specimens is entirely absent. Underside: darker yellow, the wings bearing numerous short brownish streaks and minute spots; the interspaces with a series of small rusty coloured spots and a similar spot at the apex of cell, some of the spots of the hindwing centered with white. Body beneath yellow. ♀. Upperside: white, tinged with yellow, the apical black area with an oblique patch of the ground colour, a black spot in interspace 2, on the forewing. The hindwing uniform with a black terminal margin very variable in extent. Underside: similar to that in the ♂, but the ground colour a dark dull yellow, the streaks and spots more numerous. In the wet-season brood the terminal edging to the hindwing broader. In the ♀ the ground colour is pale yellow. On the underside the streaks and spots almost or entirely absent in the ♂.

Expanse.—1¾" to 2½".

♀ Scarce, ♂ Common.

Habitat.—Practically throughout India.



FIG. 96.—IXIAS PYRENE.

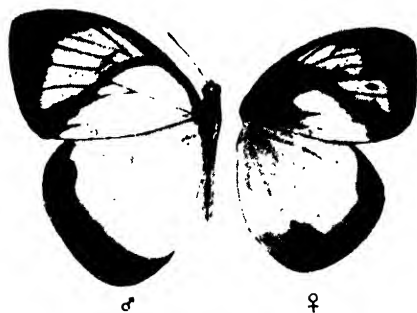


FIG. 97.—IXIAS VERNA.

116. ***Ixias verna***, ♂ ♀.—Very similar to *I. pyrene*, ground colour very pale sulphur-yellow on the upperside and a true sulphur-yellow on the underside. In the ♂ on the upperside of the hindwing the terminal border broadly black. In the ♀ the ground colour is much restricted, the orange patch much narrower, a black spot in interspace 3; on the underside both wings with scattered streaks and spots. In the dry-season brood

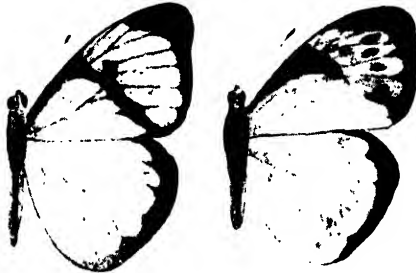
the orange patch of the forewing is wider and the black terminal margin of the hindwing narrower. On the underside of both wings a series of reddish brown spots centered with white; the streaks and minute spots more numerous.

Expanse.—2" to 2½".

Fairly common.

Habitat.—Assam, Cachar.

117. ***Ixias marianne***, ♂ ♀.—Similar to *I. verna*, ground colour white, the orange patch of the forewing much broader, the terminal border of the hindwing narrower. Underside: rich sulphur-yellow dusted with short reddish transverse streaks and spots. ♀. The orange patch narrower bearing a series of 4 black spots in inter-spaces 2 to 55. Markings of the underside larger.



♂ ♀
FIG. 98.—*IXIAS MARIANNE*.

Expanse.—2" to 2½".

Common.

Habitat.—N. W. Himalayas, Punjab, Bengal; Central, Western and Southern India.

118. ***Ixias nola***, ♂ ♀.—A possible variety only of *I. marianne* which it very closely resembles in both sexes. The orange patch of the forewing much narrower and not entering the cell. The terminal black border of the hindwing is very much restricted and in some specimens almost obsolete. In the ♀ the black inner edging to the orange patch interrupted between veins 3 and 4. The black spots in the orange patch smaller and not always complete.

Expanse.—2" to 2¼".

Habitat.—Mahableswar in Northern Bombay.

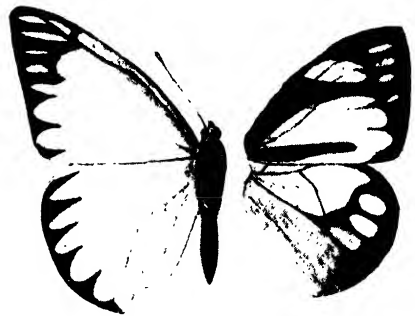
Genus.—*APPIAS*.

119. ***Appias libythea***, ♂ ♀.—Pure white with black markings which in the wet-season brood are broader than those of the dry-season brood. Specimens very variable. In the ♀ on the upperside of the forewing the subterminal spots are in some specimens very slightly dusky yellow and with a faint tinge of yellow along the dorsum on the underside.

Expanse.—2½" to 3¼". Common.

Habitat.—Western and Southern India.

The northern form, occurring in Bengal, Sikhim and Assam, has been given the name of *A. zelmira*, but which differs only slightly from the typical form. The western and southern form is smaller.



♂ ♀
FIG. 99.—*APPIAS LIBYTHEA*.

120. **Appias nero**, ♂.—Upperside: wings deep red, the veins black. Under-
side: apical area of forewing and most of the hindwing
rich yellow. ♀ Upperside: ground colour similar;
forewing: costa, apex and termen narrowly black, a
short black band from the middle of the costa to inter-
space 4, between it and the black terminal margin is a
spot of the ground colour, a transverse black bar in
interspace 2 with a spot of the ground colour between
it and the black terminal margin. Hindwing: a black
terminal margin, the black extending inwards along the
veins. Underside, forewing: base and discal area
vermilion-red, apex dusky yellow with a short dusky
bar on its inner side, a black band from costa and a
similar band in interspace 2 as on upperside. Hind-
wing dull yellow, becoming darker along the terminal
margin; an irregular transverse purplish band across
the discal area. Body dark.

Expanse.— $2\frac{3}{4}$ " to 3".

Habitat.—Sikhim, Assam, Manipur, Cachar.

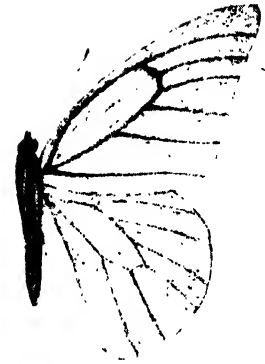


FIG. 100.—**APPIAS NERO**, ♂.

Rare.

121. **Appias hippo**, ♂ ♀.—Upperside white with black markings as shown
in illustration. Underside: forewing with a yellow or white oval spot on the
black area at apex in interspace 6. Hindwing sulphur-yellow all over in the ♂
and the basal two-thirds pale sulphur-yellow in the ♀. Dry-season specimens are

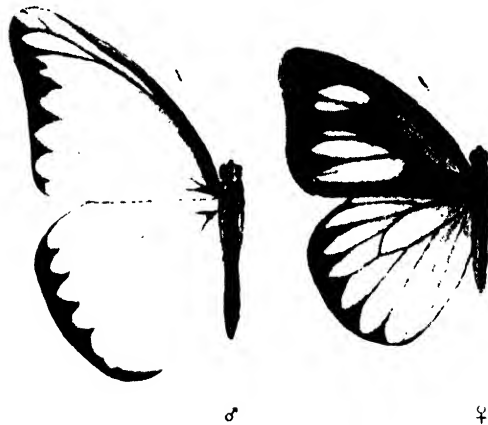


FIG. 101.—**APPIAS HIPPO**.

similar to the above wet-season form, but smaller. In the ♂ the black edging to
the wings on both sides narrower. On the underside the dry-season ♀ closely
resembles the wet-season ♂ but the oval spot in interspace 6 is absent.

Expanse.— $2\frac{1}{8}$ " to $3\frac{1}{4}$ ".

Common.

Habitat.—Sikhim, Bengal, Orissa, Assam.

Note.—The race *A. taprobana*, very closely resembling the typical *hippo*, is found in Southern India on the West Coast.

122. **Appias indra**, ♀



FIG. 102.—*APPIAS*
INDRA, ♀.

♂.—Upperside white. Forewing: base and basal half of costa thickly dusted with black scales, a black spot at apex of cell, apical half of costa, apex and termen above vein 2 broadly black, three spots of the ground colour on the apical area. Hindwing uniform with a minute black spot at apex of cell. Underside white, costa at base greenish, apex beyond a post-discal black band yellowish, dusted with black scales. Hindwing pale yellow, the whole wing lightly dusted with minute black scales, the cell spot as on upperside more or less conspicuous. ♀ Upperside: apex of forewing with 2, not 3, white spots as in the ♂. Hindwing dusky black, basal half of wing dusky grey, two or more upper subterminal white spots. Underside similar to that of the ♂, the greenish colour of the fore-

wing more extended and the yellow ground colour of the hindwing darker. All specimens very variable.

Expanse.—2" to 3".

Common.

Habitat.—Himalayas, Nepal, Sikkim, Bhutan, Bengal, Assam.

Note.—The race *A. narendra* from Southern India differs slightly from the northern form.

123. **Appias lalage**, ♂.—Upperside similar to *A. indra* but with a larger black spot in apex of cell and a black spot in interspace 3. Underside, forewing: base of costa yellowish green, apex yellow touched with lilacine in the middle. ♀ Hindwing uniform dark yellow. ♀ Upperside, forewing: costa, apex, termen and in some specimens the cell, broadly black; three spots of the white ground colour



FIG. 103.—*APPIAS* *LALAGE*.

in interspaces 1, 3, and 6 on the terminal black border. Hindwing: basal two-thirds white tinged with yellow, a broad dusky black terminal border enclosing spots of the ground colour, one in interspace 6 and sometimes one in 7. Underside, forewing: base, costa and apex yellowish green, a black band from costa to tornus and another through cell and interspace 3 joined to it, a white bar above apex of cell, a white spot in interspace 3 on the black band; tornal area and basal two-thirds of interspaces 1 and 2; white. Hindwing yellow from pale to

dark in different specimens dusted with dark scales having a tendency to form transverse bars. All specimens variable. In the dry-season brood the black markings smaller and more restricted.

Expanse.— $2\frac{3}{4}$ " to $3\frac{1}{4}$ ".

Common,

Very rare.

Habitat.—The Himalayas, Sikhim, Bhutan, Assam.

124. **Appias albina**, ♂.—Upperside white. Forewing: costa, apex and termen narrowly dusted with black scales. Hindwing more lightly dusted with black scales. Underside: forewing white, apex pale yellow. Hindwing entirely pale yellow. ♀ Upperside, forewing: costa and termen more broadly black, a black spot in interspace 3, sometimes absent, apical area in some specimens broadly black bearing 4 to 5 spots of the ground colour. Hindwing dirty white to pale yellow all over. In some specimens the apices of the veins black. Underside yellow, in some specimens rich dark yellow. Very variable.



FIG. 104.—*APIAS ALBINA*.

Expanse.— $1\frac{3}{4}$ " to 2".

Common.

Habitat.—Sikhim, Bengal, Western and Southern India, Assam.

125. **Appias wardi**, ♂.—Upperside white. Forewing: base and costa densely and broadly dusted with black scales, apical area and terminal border to dorsum black, a curved series of 4 to 5 white spots on the back of the apex. Hindwing slightly dusted with black scales at base, the apices of the veins bearing black spots. Underside: forewing with apex yellow, a somewhat narrow curved black band from middle of costa to tornus. Hindwing uniform yellow. ♀. Upperside similar to that in the ♂, but with the black markings much broader, the white spots on the black area of forewing reduced to two only. Underside: forewing white, basal half of cell sulphur-yellow, a broad curved black band crosses the wing from costa to tornus, apex bluish white. Hindwing uniform bluish white.



FIG. 105.—*APIAS WARDI*, ♂.

In the dry-season brood the black markings much restricted.

Expanse.— $2\frac{1}{2}$ " to 3".

Not common.

Habitat.—Southern India.

Genus.—CATOPSILIA.

126. **Catopsilia crocale**, ♂ ♀.—Very variable, the ♂ appears in 2 principal forms, namely:—With the upper-side entirely yellow or with yellow base but white terminal half to both wings. The width of the black terminal border of the forewing varies according to the time of year. The underside of both wings without eye-spots. There occur 2 female forms, namely:—With white upper surface and slight yellowish basal tinge on the hindwing, indistinct black submarginal bands and white underside; and the form which varies from pale to dark yellow, and has sharply marked black submarginal bands and dark



FIG. 106.—CATOPSILIA CROCALE.

or reddish yellow underside.

Expanse.—1" to 3".

Very common.

Habitat.—Throughout India.

Note.—May be considered the commonest butterfly of the East and forms with other species those enormous periodical flights of butterflies numbering hundreds of thousands.

127. **Catopsilia pyranthe**, ♀ —White, slightly tinted in some specimens with green. Forewing with or without a black spot at apex of cell, a black costal and terminal margin to the forewing variable in intensity but in some specimens entirely wanting, specially in the dry-season form. In the wet-season form strongly widened. On the underside of both wings in the dry-season form there are large silver discal spots and a confusion of reddish dots ♀ always with a black spot at apex of cell of forewing. On the hindwing sometimes with a series of terminal spots at the apices of the veins. Under-side, forewing: cell-spot well defined with an outer red ring encircling a silvery spot, on the hindwing two similar spots. Variable.

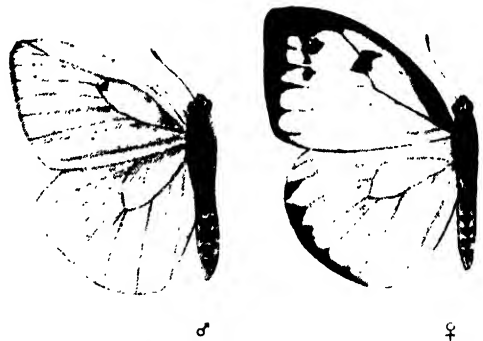


FIG. 107.—CATOPSILIA PYRANTHE.

Expanse.—2" to 2½".

Very common.

Habitat.—Throughout India, Assam.

128. **Catopsilia florella**, ♂ ♀.—Differs from *pyranthe* in having the border of the forewing always broken up into separate black spots, the forewing tinged with yellow and the underside yellow instead of greenish white and much marbled with red in both seasonal forms. The rainy-season form differs in the larger size and the more extended black markings on the upperside, whilst the markings on the underside do not differ.

Expanse.—2" to 3".

Common.

Habitat.—Throughout India, Assam.

Genus.—DERCAS.



FIG. 108.—CATOPSILIA FLORELLA, ♂.



FIG. 109.—DERCAS VERHUELLI, ♂.

129. **Dercas verhuelli**, ♂.—Upperside, rich yellow. Forewing: an orange spot at apex of cell, apex with a dark reddish brown patch produced down the termen to apex of vein 1, and narrowly edged with orange, a narrow band of orange from the angle of the apical patch to vein 1. Hindwing uniform with an indication of an orange band across the discal area, minute brown dots at apices of veins. Underside paler. Forewing: marking as on upperside but of a blood-red colour, and in addition there are 3 red spots on the costa and a streak of silvery scales crossing the apical patch. Hindwing: the veins at base of cell, a looped line round apex of cell, a faint transverse bar near the apex of interspace 7 and the band that crosses the discal area reddish.

Body pale yellow, head above pink. ♀. Similar. Pale sulphur-yellow. The dark terminal border ends at vein 3 with a spot of the same colour in the interspace below it.

Expanse.—2¾" to 3¼".

Fairly common.

Habitat.—Sikhim, Assam, Manipur.

Note.—The ♀ in some instances is pure white.

130. **Dercas lycorias**, .—Sulphur-yellow, paler in the hindwing, a dark brown patch at apex extending down as a narrow border to vein 3, a large spot of the same colour in interspace 3 and minute dots at apices of the veins ♀ much paler, the spot in interspace 3 larger. Body pale yellow, head pinkish.

Expanse.—2".

Uncommon.

Habitat.—Sikhim, the hills of Assam.

Note.—In examples from Assam the round spot in interspace 3 of the forewing is commonly absent.



FIG. 110.—DERCAS LYCORIAS, ♂.

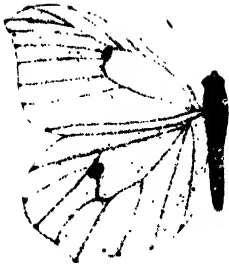
Genus.—GONEPTERYX.

FIG. 111.—GONEPTERYX RHAMNI, ♂.

131. **Gonepteryx rhamni**, ♂.—Upperside pale yellow, an orange spot at apex of cell in both wings, that on the hindwing the larger, the apices of the veins and the fringe of the forewing from vein 4 to apex reddish brown. Underside very pale yellow with a dusky appearance, cell-spots on both wings dull red. ♀. Upperside pale creamy white, underside white with a greenish yellow wash.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—The Himalayas, Nepal, Sikhim, Assam.

Note.—Very common in N. W. India and Kashmir up to elevations of 10,000 feet. Rare in Sikhim and

Assam.

132. **Gonepteryx zaneka**, ♂ ♀.—Very similar to the foregoing. The males have the forewing sulphur-yellow and the hindwing whitish; the females are dirty white throughout. The race *chitralensis* is the most westerly form in which the yellow on the forewing is reduced to the lower half, whilst the hindwing shows a slight yellowish basal tinge.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ". Not rare.

Habitat.—N. W. Himalayas, at elevations of 6,000 to 10,000 feet.



FIG. 112.—GONEPTERYX ZANEKA, ♂.

Genus.—COLIAS.

133. **Colias hyale**, ♂.—Upperside, pale yellow. Forewing: costa and base dusted with black scales, a small oval cell spot black, the apex and termen broadly black bearing a transverse series of 5 or 6 spots of the yellow ground colour. Hindwing thickly dusted with black scales, cell spot of a deep orange-yellow and a terminal margin black. Underside: cell-spot as an upperside and a post-discal transverse series of black spots. Hindwing has the cell-spot silvery, encircled by slender red rings, and a post-discal obscure series of red spots. Both fore and hind-



FIG. 113.—COLIAS HYALE.

wings with the fringe and a line on the margins salmon-pink ♀ very similar to the ♂ in markings but the ground colour on both sides a paler yellow or white, the spots of the ground colour that traverse the black terminal border of the forewing generally larger and more numerous than in the ♂. Head and body

in front salmon-pink, rest of body yellow overlaid with greenish black, pale yellow beneath and legs pinkish.

Expanse.—2" to 2½".

Common.

Habitat.—N. W. Himalayas, extending to Bhutan.

134. **Colias nilgiriensis**, ♂ ♀.—Closely resembles *C. hyale* but is much smaller and confined to the hills of Southern India. In the ♂ the ground colour is of a deeper yellow and in the ♀ is apparently always white. The dusting of black scales on the wings more extensive.

Expanse.—1¾" to 1⅞". ♂ Very common. ♀ Scarce.

Habitat.—Southern India, Travancore, the Nilgiri and other hills, up to 7,000 feet.



FIG. 114. COLIAS NILGIRIENSIS, ♂.

Rare.

135. **Colias ladakensis**, ♂ ♀.—Similar. On the upper-side is brilliant sulphur-yellow, the black marginal area broad with large oval yellow spots; hindwing densely dusted over with black scales, likewise yellow spotted.

Expanse.—1¾" to 2¼".

Habitat.—Ladak and Kashmir.



FIG. 115.—COLIAS LEECHI, ♂

136. **Colias leechi**, ♂ ♀.—Upperside: ground colour in the ♂ a pale greenish yellow, in the ♀ duller, almost white, a black spot in apex of cell and a terminal black border traversed by spots of the ground colour in the forewing. The hindwing is densely overlaid with black scales on the basal two-thirds. Underside dull greenish white, veins in both fore and hind wings white.

Expanse.—2" to 2½".

Rare.

Habitat.—Ladak, 15,000 to 17,000 feet.

137. **Colias eogene**, ♂.—Upperside rich dark orange. and elongate cell-spots and a broad band on the terminal third of the wing dull black. Hindwing: base and a broad area parallel to the dorsum dull black, dorsal margin yellowish, a terminal broad dull black border. Fringe of both fore and hind wings pink. Underside orange-yellow suffused with green. In the forewing the cell-spot is pink centered with white and there is a transverse series of post-discal black spots. In the hindwing, a spot at base of cell, a large double spot at apex of cell and the edging to the costa and fringe pink ♀, similar to the ♂ but the basal black area broader and the terminal black border bearing a complete series of whitish spots tinged with pink, fringe very

Forewing: base

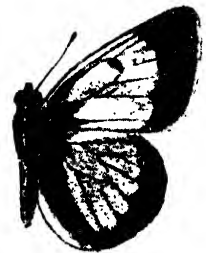


FIG. 116.—COLIAS EOGENE, ♂.

broadly orange-red on the forewing. Hindwing dusky black, cell-spot and a sub-terminal series of small spots orange-red, fringe dark pink.

Expanse.—2".

Rare.

Habitat.—N. W. Himalayas, Sikkim, at elevations of over 9,900 feet.



FIG. 117.—*COLIAS STOLICZKANA*, ♂.

138. *Colias stoliczkana*, ♂.—Upperside: light ochre-yellow with cell-spot and broad marginal border to both wings. On the hindwing a black streak from base to dorsum. Underside suffused with green. ♀. Upperside: ground colour sometimes orange-yellow, sometimes white, the terminal black border of both wings traversed by a series of elongate spots of the ground colour.

Expanse.—1" to 2".

Rare.

Habitat.—N. W. Himalayas, Kashmir, Sikkim, above 15,000 feet.

139. *Colias fieldi*, ♂.—Upperside deep orange-yellow. Forewing: extreme base, a spot at end of cell and a broad terminal border black. Hindwing: terminal border black, dorsum broadly pale yellow, base thickly, and rest of wing not so densely, dusted with dark scales; cell-spot large of a paler yellow than the ground colour enclosing two dusky rings. Fringe of both wings broadly salmon-pink. Underside light orange-yellow, the costa and terminal area of forewing and the whole surface of the hindwing overlaid with pale dull green. The cell-spot of forewing centered with silver and a post-discal series of black spots. In the hindwing the cell-spot silvery and circled by a salmon-pink ring, an obscure transverse post-discal series of pinkish spots. Body above greenish black, head and thorax anteriorly salmon-pink, beneath, body yellow. ♀ The black markings broader and dusting of black scales more extensive, specially on the hindwing. On the terminal black border of the forewing is a series of bright yellow spots. On the hindwing a post-discal series of yellow spots bordering the black on the terminal margin. Underside is similar to that of the ♂ body above as in the ♂ beneath, the head and thorax salmon-pink.

Forewing: extreme
Hindwing: terminal



FIG. 118.—*COLIAS FIELDI*, ♂.

Expanse.—2" to 2½".

Common.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam.

The species extends from 5—12,000 feet.



FIG. 119.—*TERIAS LIBYTHEA*, ♂.

Genus—*TERIAS*.

140. *Terias libythea*, ♂ ♀.—Upperside yellow with costa of forewing and terminal border of both wings broadly black and evenly curved, base of wings dusted with black scales. Underside: ground colour. Forewing: costa narrowly pink, two black specks

at end of cell and some obscure preapical black specks. Hindwing: a small spot at base, followed by three spots and a loop-like cell-spot at apex black and beyond the cell small black-scaled diffuse spots and transverse short bands of black scales. The apices of the veins in both wings with black spots. Fringe salmon-pink. ♀ Similar to the ♂ but with the terminal band on the upperside broader. In dry-season specimens of both sexes the terminal black border of the hindwing is narrower and in some specimens broken up into spots.

Expanse.— $1\frac{1}{4}$ " to $1\frac{3}{4}$ ".

Common.

Habitat.—The whole of India.

141. ***Terias venata***, ♂ ♀ .—Very similar to *T. libythea*, but with more pointed forewing and even black terminal border to the hindwing. The dry-season form has narrower black margins.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Not common.

Habitat.—The Himalayas, Punjab, Western and Southern India, Assam.

142. ***Terias laeta***, ♂ ♀ .—The forewing is sharply produced at apex, more so than in *T. venata*, and termen straight. Forewing: apical black area stops abruptly at vein 2, tornus yellow, except for a very fine black border line. Hindwing almost uniform, the terminal black band reduced to a black subapical patch and posteriorly to a series of black spots in the wet-season form and which are absent in specimens of the dry-season form. Underside: costa of forewing narrowly and fringe of both wings pink. Costal margin and apex of forewing broadly rusty-brown, a black speck at apex of cell. Hindwing densely overlaid with brownish red scales, a speck at base of interspace 7 with a minute ring beyond; 4 dark spots cross the wing at middle of cell and a transverse dark bar from apex of wing to vein 1.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Common.

Habitat.—Over the whole of India.

Note.—Found in company with *T. libythea* and having the same habits as that insect.



FIG. 120.—*TERIAS LAETA*, ♂.

143. ***Terias hecabe***, ♂ .—Very variable in the dark markings and in the shade of ground colour. Upperside yellow, apex and termen of forewing deep black, the inner margin of the black area irregular, excavated between veins 2 and 4. Hindwing with a narrow terminal black border. Underside: generally of a paler shade of yellow with reddish brown markings ♀ very similar, the black area on both wings slightly broader. In the dry-season brood the markings of the underside are larger and darker. On the fore-

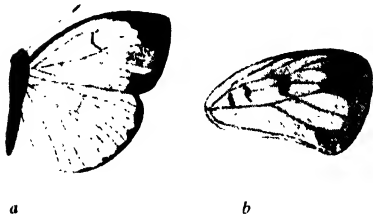


FIG. 121.—*TERIAS HECABE*.
a. Typical form.
b. Underside, forewing

wing there is an additional, very prominent preapical elongate bar of reddish brown and in some specimens a small reddish brown spot near the tornus. No two specimens quite alike.

Expanse.— $1\frac{1}{2}$ " to $2\frac{1}{6}$ ".

Very common.

Habitat.—Throughout India.

Note.—The difference in the specimens is principally in the width of the black terminal border of both wings. The illustration given is that of the typical form but in extreme light forms the terminal black border of the forewing is reduced to a small patch at apex and below which the apices of the veins bear minute black spots. On the hindwing only the apices of the veins with minute black specks.

144. ***Terias sari***, ♂ ♀.—Similar to *T. hecabe* but easily recognisable by the rounded wings, the large red-brown patch occupying the entire apex, and the single black ring-spot near base of cell on the underside.

Expanse.— $1\frac{1}{2}$ " to 2".

Not common.

Habitat.—The Nilgiris in Southern India.

145. ***Terias silhetana***, ♂ ♀.—Similar to *hecabe* but in the ♀ the black terminal area of the forewing narrower than in the typical form and in the ♀ the black terminal border of both wings much broader. On the upperside the ground colour is rich citron-yellow and on the underside paler. On the underside similar to *T. hecabe* but in the forewing an additional minute brown speck at the extreme base of the cell in both sexes.

Expanse.— $1\frac{3}{4}$ " to 2".

Common.

Habitat.—Sikhim, Assam, Central and Southern India.

Note.—*T. silhetana*, is almost as variable as *T. hecabe*, but the only constant difference between the two species is the presence in *T. silhetana* of the additional spot at the base of the cell on the underside of the forewing.

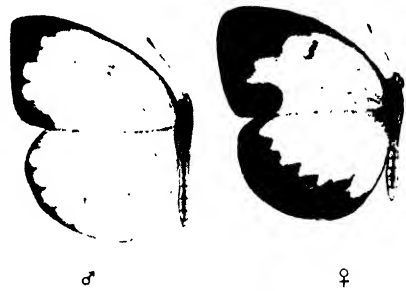


FIG. 122.—*TERIAS SILHETANA*.

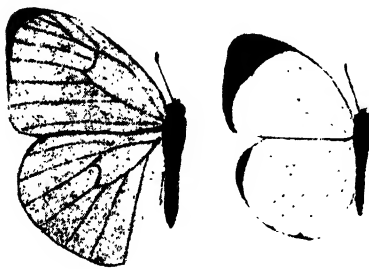


FIG. 123.—*TERIAS HARINA*.

146. ***Terias (Gandaca) harina***, ♂.—

Upperside clear primrose-yellow. Forewing: apex black very narrowly continued along the termen. Hindwing uniform. ♀ Forewing apical area and terminal black border much broader. Hindwing with the apex narrowly black. Underside: a paler yellow, uniform. Wet-season forms of both sexes have broader black borders than in the dry-season forms. In some specimens the ground colour is entirely white on the upperside.

Expanse— $1\frac{3}{4}$ " to $2\frac{1}{8}$ ". Fairly common.

Habitat.—Sikhim, Assam, Cachar, Manipur.

Note.—Many brooded and flies all the year round; flight slow.

Genus—**COLOTIS**.

147. **Colotis amata**, ♂.—Upperside: salmon-pink. Forewing: costa, base, a spot at apex of cell and terminal third black, the last traversed by a series of spots of the ground colour, the spot in interspace 1 large. Hindwing: a band on costa joining up with a terminal broad border black with a series of spots of the ground colour on the latter. The spots are in some specimens entirely absent. Dorsum heavily dusted with black scales. Underside: greenish yellow, the black markings of the upperside showing through. Forewing: generally a black spot at apex of cell, a square black spot in interspace 1 and another (sometimes absent) in interspace 2, dorsal margin pale salmon pink. Hindwing: the whole surface dusted with minute black scales, a small black cell-spot. Fringe of both wings pale salmon-pink ♀. Form 1:—Ground colour paler, in some specimens yellowish, all dark markings duller. Hindwing without the black costal margin, on the underside the cell-spot of the hindwing larger than in the ♀. A discal series of reddish spots from costa to dorsum ♀. Form 2:—Similar to ♀ form 1, but the ground colour pale primrose-yellow to pure white.

Expanse.— $1\frac{1}{2}$ " to 2".

Very common.

Habitat.—Peninsular India, but not Bengal.



FIG. 124.—**COLOTIS AMATA**, ♂.

148. **Colotis protractus**, ♂ ♀.—Upperside markings and colouring very similar to *C. amata*. The terminal black border to both wings ornamented with blue-grey spots. The dorsum of hindwing white and the terminal black border occupying half the wing. Underside a beautiful greenish yellow, the discal area tinged with salmon-pink. The fringe of both wings pale salmon-pink. In the ♀ the dark terminal borders of both wings dark brown edged on the inner side with jet-black on the forewing. On the underside the apex and termen of forewing broadly dull brownish pink, otherwise as in the ♂. Hindwing uniform brownish pink.

Expanse.— $1\frac{1}{2}$ " to 2".

Uncommon.

Habitat.—The Punjab.

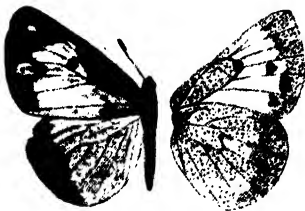


FIG. 125.—**COLOTIS VESTALIS**, ♂

149. **Colotis vestalis**, ♂.—Upperside white, fore and hind wings with broad terminal black bands. Forewing: base, costal area heavily dusted with dusky scales, a black spot at apex of cell. On the terminal black border two apical small spots and a much larger spot in interspace 3, all of the white ground colour. Hindwing slightly dusted with

dusky scales at base. Underside greenish yellow sparsely dusted with black scales, a cell-spot and three subterminal spots in interspaces 1, 2 and 3, black. Hindwing uniform, a small dot in apex of cell. ♀ Upperside very similar to that of the ♂, the terminal bands broader and brownish, not black. Underside: the cell and basal area on forewing white tinged with greenish yellow; the costa and apex of forewing and the whole surface of the hindwing pale yellowish. In the dry-season brood, on the upperside the black markings are narrower and duller and on the underside the costal and apical areas on the forewing and the whole surface of the hindwing vary from pale yellow to dark reddish yellow.

Expanse.— $1\frac{1}{2}$ " to 2".

Nowhere rare.

Habitat.—The Punjab, Western and Central India.

150. **Colotis fausta**, ♂.—Upperside salmon-pink to orange-yellow. Forewing: base and costal margin dusted with dark scales, a black spot at end of cell, apical area and termen black traversed by a broad band and a series of terminal spots of the ground colour. Hindwing uniform with terminal black spots to the veins. Underside pale yellowish white tinged with a beautiful rosy colour. There are two forms of the ♀. Form 1:—Ground colour and markings as in the male. Form 2:—Ground colour white slightly tinged with salmon-pink, markings similar to those in the ♂, but much broader,

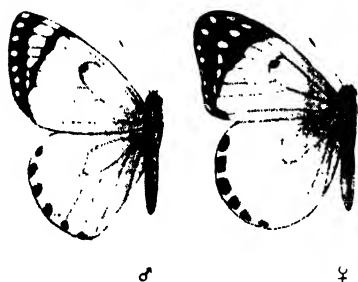


FIG. 126.—COLOTIS FAUSTA.

the terminal spots of the hindwing sometimes united into a continuous band.

Expanse.— $1\frac{3}{4}$ " to $2\frac{1}{4}$ ".

Fairly common.

Habitat.—North-West India to Bombay; Central, Eastern and Southern India.

151. **Colotis eucharis**, ♂ ♀.—Upperside white. Forewing with a broad apical orange-yellow patch generally bearing a black diffuse spot on its lower inner edge, apex and termen edged with black. Hindwing uniform. Underside pure white tinged with pinkish yellow on the forewing. Hindwing shaded with yellow at base and a greyish preapical spot on costa, also a few scattered streaks and small spots ♀. Upperside, forewing: the apical black area with three elongate orange spots and a transverse black spot in interspace 1. Hindwing: the precostal spot and terminal spots larger. Underside markings broader and darker. The ♀ of the rainy-season form with rose-red instead of yellowish underside to the hindwing.

Expanse.— $1\frac{1}{2}$ " to 2".

Habitat.—Central and Southern India.

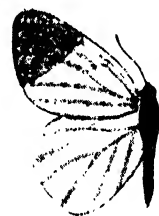


FIG. 127.—COLOTIS EUCARIS, ♂.

Common.

152. **Colotis etrida**, ♂.—Upperside forewing: white, a small black spot at apex of cell, apex broadly black enclosing a dark orange or red patch traversed by the black veins. Hindwing uniform except for a series of terminal black spots. Underside: white, cell and apex of forewing tinged with yellow, ♀ very similar to the ♂, but with a small black spot in the middle of interspace 1 and another in interspace 3, the terminal spots of the hindwing larger. On underside the apex of forewing and whole surface of hindwing tinged with yellowish.

Expanse.— $1\frac{1}{4}$ " to $1\frac{3}{4}$ ".

Fairly common.

Habitat.—W. Himalayas and throughout Peninsular India but not Bengal.



FIG. 128.—*Colotis etrida*, ♀.

153. **Colotis danae**, ♂.—Upperside: forewing white with sometimes a black spot at apex of cell, apex bright carmine-red bordered internally by a black band, termen narrowly black. Hindwing uniform except for a series of terminal black spots. Underside: forewing white, base of cell washed with yellow, the apical carmine area of the upper-side replaced by a yellowish pink patch not margined with black. Hindwing sometimes tinged with yellowish pink, sometimes pure white, cell-spot sometimes centered with carmine; a curved dull black discal band and minute terminal black spots at apices of the veins. ♀. Similar to the ♂, but with the dark

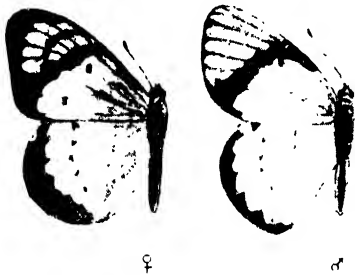


FIG. 129.—*Colotis danae*.

markings much broader. The ♀, however is most variable, some specimens are without the red on the forewing and others with yellow bordering to the black submarginal band of the forewing. Females of the dry-season brood have no inner black bordering to the ornamental spot of the forewing and this is also reduced in the dry-season males.

Expanse.— $1\frac{1}{2}$ " to 2".

Common.

Habitat.—Western and Southern India.

Genus.—*HEBOMOIA*.

154. **Hebomoia glaucipepe**, ♂.—Upperside creamy white, apical area black enclosing a rich orange-red patch that is traversed by the black veins and bears in interspaces 3 to 6 a post-discal series of elongated black spots. Hindwing with the anterior portion of terminal margin narrowly black and with a black spot in interspace 7. In some specimens one or two smaller spots in the



FIG. 130.—*HEBOMOIA GLAUCIPEPE*, ♂.

interspaces below. Underside white, apical third of forewing and the whole of hindwing mottled with brown streaks and spots. ♀. Similar to the ♂, the orange patch on forewing more restricted and a row of orange spots beyond in interspaces 2 to 6. Hindwing with a terminal series of connected large black spots and an inner series of large triangular black spots in interspaces 2 to 7. Underside similar to that in the ♂ the streaks and spots more numerous. The dry-season form consists mostly of much smaller specimens with pointed apex and light sand-coloured under-surface in both sexes.



FIG. 130A.—HEBOMOIA GLAUCIPPE, ♀.

Expanse.— $2\frac{1}{2}$ " to 4". Very common.

Habitat.—N. E. India, Nepal, Sikkim, Bhutan, Assam, Southern India.

Genus.—PARERONIA.

155. **Pareronia avatar**, ♂.—Upperside: forewing very pale blue, costa, apex and termen black produced inwards along each vein. Hindwing with a



FIG. 131.—PARERONIA AVATAR, ♀.



FIG. 132.—PARERONIA AVATAR, ♂.

narrow black border to termen. Underside pale silvery blue and the black markings of the upperside a much darker silvery blue. ♀ Upperside, forewing: all the veins broadly black and two black streaks in cell, the terminal black border traversed by a series of spots of the ground colour. Hindwing with markings as

on forewing. Underside silvery white, the veins more prominently black than in the ♂.

Expanse.—3" to 3½".

Common.

Habitat.—Sikkim, Bhutan, the hills of Assam.

156. **Pareronia hippia**, ♂ ♀ — Very similar to *P. avatar*, but slightly smaller and the pale blue ground colour of a deeper tint; all the veins defined with black. The apical black area of the forewing traversed by spots of the ground colour, variable in number. Underside paler, the terminal margins obscurely grey. ♀ There are two forms of the female. First form:—Upperside black with streaks and spots bluish white. Underside similar to the upperside but ground colour dull, the markings broader but less clearly defined. Second form:—Similar to the first but the ground colour on

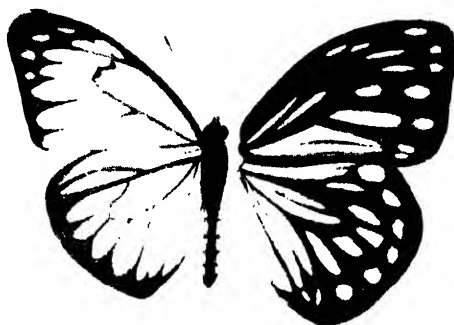


FIG. 133.—*PARERONIA HIPPIA*.

upper side of hindwing at its base and dorsal area tinged with bright yellow.

Expanse.—2¾" to 3½".

Common.

Habitat.—Almost throughout Continental India, Assam.



FIG. 134.—*PARERONIA PINGASA*, ♂

157. **Pareronia pingasa**, ♂ ♀.—Very similar to the foregoing but with the ground colour a deeper blue and characterised by the very broad, black, border of both wings. On the black border of the forewing one or two spots of the ground colour are present in a few specimens. ♀ closely resembles the ♀ of *P. hippia*.

Expanse.—3" to 3 1/3".

Common.

Habitat.—Southern India.

NYMPHALIDÆ.

Genus.—*HESTIA*.

158. *Hestia malabarica*, ♂ ♀. Wings semi-transparent and of a blue-white bearing large black spots, the sub-terminal series of spots in pairs on the veins, the terminal series on the veins and in the interspaces. Underside similar, head and thorax streaked and spotted with black, abdomen white with a broad, dusky-black streak above.

Expanse.—4" to 6".

Fairly common.

Habitat.—Western and Southern India.

Notes.—Although common, is difficult to catch as it flies high. It occurs abundantly from February to April and again from August to November.

Genus.—*DANAIS*.

159. *Danais plexippus*, ♂ ♀.—
Upperside: forewing, costal and dorsal

margins and apical half of wing black. The cell, interspaces 1 and 2 and a spot at base of interspace 3 tawny red. Three white spots above and beyond apex of cell followed by a pre-apical white band crossed by the veins; an incomplete sub-terminal and terminal series of white spots. Hindwing: tawny-red, veins, and terminal margin black; the latter with two more or less complete rows of white spots. Underside similar.

Expanse.—2½" to 3". Very common.

Habitat.—Generally throughout the whole of India.

160. *Danais hegesippus*, ♂ ♀.—Very little different to *D. plexippus*. The pre-apical white band of the forewing divided into separated elongate spots. The hindwing black with the cell and interspaces streaked with white. Similar on the underside.



FIG. 135.—*HESTIA MALABARICA* ♂.



FIG. 136.—*DANAIS PLEXIPPUS*, ♂.

Expanse.— $2\frac{3}{4}$ " to 3".

Habitat.—Bengal.

Not common.

161. ***Danaïs chrysippus***, ♂ ♀.—Upperside: forewing tawny-red, paler over the dorsal area. Costa and apex black, the latter crossed by a white, oblique bar with two white spots below its lower end. One or two white spots above and beyond apex of cell and a series of terminal white spots varying in size. Hindwing: paler, termen narrowly black with a series of white spots. A black spot near the base of vein 2 and some smaller black spots bordering the cell. Underside similar but paler. Body spotted with white, abdomen yellowish above, whitish below.

Expanse.— $2\frac{3}{4}$ " to 3".

Very common.

Habitat.—Throughout India.



FIG. 137.—*DANAIS CHRYSIPPUS*, ♂

162. ***Danaïs limniace***, ♂ ♀.—Upperside black with bluish-white spots and streaks. Underside: basal two-thirds of forewing dusky-black, the apex and hindwing olive-brown, the spots and streaks as on upperside. Head and thorax spotted and streaked with white, abdomen yellowish beneath spotted with white.

Expanse.—3" to 4".

Very common.

Habitat.—Throughout India.



FIG. 138.—*DANAIS LIMNIACE*, ♀.



FIG. 139.—*DANAIS SEPTENTRIONIS*, ♂.

163. ***Danaïs septentrionis***, ♂ ♀.—Very similar to *D. limniace* but it is slightly larger and with the ground colour darker, the bluish-white spots and streaks of a bluer tint and more distinct. Underside darker.

Expanse.—3" to $4\frac{1}{2}$ ".

Very common.

Habitat.—Throughout India.

164. **Danais gautama** ♂ ♀.—Differs from both *D. limniace* and *D. septentrionis* in the two white cell-streaks of the forewing and in the black fork in the cell of the hindwing being so divided that there are three white longitudinal stripes. The streaks beyond the cell of the hindwing so lengthened as to join up with the subterminal spots. On the underside the forewing has the red-brown tinge as in *D. septentrionis* and the hindwing the stripes as in *D. limniace*.

Expanse.— $3\frac{3}{4}$ " to 4".

Fairly common.

Habitat.—Chittagong.

165. **Danais aglea**, ♂ ♀.—Ground colour, dull black with numerous transparent bluish-white spots and streaks. Upperside: forewing: interspace 1 with two long broad streaks, the cell with a very broad streak traversed by two fine black lines, similar in the hindwing. Discal spots large followed by subterminal and terminal smaller spots. Underside similar, the markings blurred. Head and thorax black spotted with white, abdomen brown above, yellowish beneath.

Expanse.— $2\frac{3}{4}$ " to 4".

Very common.

Habitat.—Southern India.

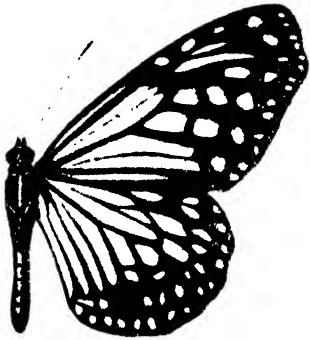


FIG 140.—DANAIS AGLEA, ♂.

166. **Danais melanoides**, ♂ ♀.—Is the Northern and Eastern form of *D. aglea* with the bluish-white markings much broader and on the underside the streaks are as a rule, much blurred. Common.

Habitat.—The Himalayas, Assam, Cachar, Sylhet, Chittagong.

167. **Danais melanea**, ♂ ♀.—Wings elongate. Upperside: forewing black, hindwing very dark-brown with spots and streaks pale bluish-white. Underside: forewing black the apex tinged with bright chestnut-brown, hindwing bright chestnut-brown. Head and thorax black spotted with white, abdomen yellowish-brown.

Expanse.—3" to 4".

Common.

Habitat.—The Eastern Himalayas, Assam.

168. **Danais tytia**, ♂ ♀.—Larger than *D. melanea* but exactly resembling it in the bluish-white markings which are proportionately larger. The hindwing a darker chestnut-red. Underside similar, the markings clearer.

Expanse.—3" to 5".

Fairly common.

Habitat.—The Himalayas, Sikhim, Assam.

Notes.—In the N. W. Himalayas four broods have been observed, the first appearing in April, the fourth in October—ascends to 10,000 feet.



FIG 141.—DANAIS MELANEA, ♂.

169. **Danaïs nilgiriensis**, ♂ ♀.—Dull black with greenish-white markings which are much narrower than in the preceding forms described. The undersurface is pale earth-brown and all the transparent markings greenish. Head and thorax black spotted with white, abdomen brownish above, dirty white beneath.

Expanse.—3" to 3 1/3".

Common.

Habitat.—The hills of Southern India.

Note.—Not found below 2,000 feet, flies in April and May.



FIG. 142.—*DANAIS NILGIRENSIS* ♂.

170. **Euploea core**, ♂ ♀.—Upperside dark brown, terminal area paler, fore and hind wings with sub-terminal and terminal series of white spots; on the forewing the former

are curved inwards along the costa, the latter series smaller and not reaching the apex. Sometimes a small spot in apex of cell and one or more discal spots. On the hindwing the inner series of spots large. Underside similar. Sex mark in the ♂ appearing as a single short brand near middle of interspace 1.

Expanse.—3".

Common.

Habitat.—Throughout Continental India.

Notes.—In identifying this species, compared with *E. coreta* which it so closely resembles in shape, colour and markings, it can easily be distinguished from the latter by the presence of only one short brand mark on the forewing. *E. coreta* having two brands which are also much longer and very distinct. See fig. 146.

171. **Euploea godarti**, ♂ ♀.—Upperside dark brown, terminal markings paler. Forewing with more or less complete series of subterminal and terminal white spots, apical area light blue-violet varying considerably in extent from mere streaks between the veins to a large patch occupying the whole of the apex. Hindwing with series of subterminal and terminal white spots. Underside paler, apex of forewing not violet at apex. Sometimes a spot at apex of cell and a few discal spots. Hindwing spotted similarly.

Expanse.—3 1/4" to 4 1/4".

Very rare.

Habitat.—The Lakhimpur district of Cachar.

Notes.—I took three specimens in April 1921 on the banks of the Barak river in Cachar near the



FIG. 144.—*EUPLOEA GODARTI* ♂.



FIG. 143.—*EUPLOEA-CORE*, ♂.

Manipur border and as it occurs in Burma and Tenasserim, it no doubt, is also to be found in the intermediate country, *i.e.*, in Manipur and the Lushai Hills.

172. **Euploea harrisi**, ♂ ♀ .—

Upperside forewing: dark-brown glossed with blue all over, a subterminal series of bright blue spots and a terminal series of small dots. Hindwing glossed with blue only in the middle. Underside dark-brown, forewing slightly glossed with blue only in the middle. Underside dark-brown, forewing slightly glossed with blue in middle. Additional spots on both wings:—A spot at apex of cells and several discal spots bluish-white. Head and thorax minutely spotted with white. ♂ sex mark on forewing appears as two long and broad brands.

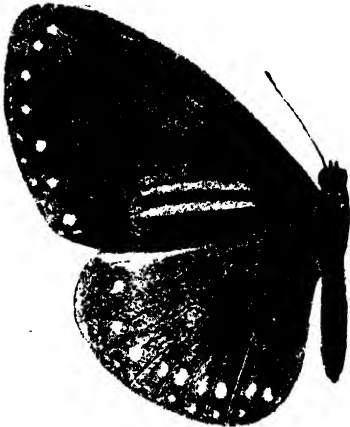


FIG. 145.—EUPLOEA HARRISI ♂.

Expanse.— $3\frac{1}{2}$ " to 4".

Habitat.—Sikhim, Assam, Cachar.

173. **Euploea coreta**, ♂ ♀ .—

Shape, colour and markings almost similar to *E. core*. Males can be distinguished by the presence of two

brands instead of one only on the forewing. Females can be separated from the females of *E. core* by the underside of the forewing having a complete series of six spots just beyond the cell. In *E. core* two of the upper spots are always absent. Further the two brand marks are faintly perceptible in the female.

Expanse.— $3\frac{1}{2}$ " to 4".

Common.

Habitat.—Southern India.

174. **Euploea diaone**, ♂ ♀ .—Wings slightly more elongate than in *E. godarti*. Upperside forewing: dark-brown entirely glossed with a brilliant blue, a spot in apex of cell and sometimes one or more discal and a costal spot white. Hindwing with or without the dark-blue gloss in the middle, the rounded submarginal spots of the underside often showing through. Underside dark-brown, the spots as on upperside but more distinct, in the forewing an additional large spot in interspace 2. Hindwing with a small white spot in apex of cell and five or six discal spots, the subterminal spots sometimes absent. Fringe of both wings with specks of white.



FIG. 146.—EUPLOEA CORETA, ♂.

Fringe of both wings with

Expanse.—3" to 4½".

Not common.

Habitat.—N. India, Sikkim, Assam, Cachar, Sylhet.

Notes.—Easily identified from others of this genus by the beautiful dark iridescent blue and prominent white spot in apex of cell of the forewing.

175. **Euploea alcatheae**, ♂ ♀.—Upperside dark-brown without any blue gloss. Forewing in ♂ with generally two or three white spots on the tornal area. Hindwing with a subterminal series of elongate white spots or streaks in the interspaces decreasing in length towards apex of cell and a few discal spots.

♀ Similar to the ♂ but with a white spot in cell and few discal white spots on terminal spots larger. Underside similar, the white spots large. Head, thorax and abdomen brown, spotted with white beneath.

Expanse.—3" to 4".

Common.

Habitat.—Assam, Cachar, Manipur.



FIG. 147. —EUPLOEA ALCATHEE, ♀.

176. **Euploea diocletiana**, ♂ —Upperside black the forewing glossed throughout with brilliant blue, the disc and terminal margin only of hindwing shot with blue. Forewing: a large white bar from middle of costa and filling apex of cell and one or two small white spots below, a large blue spot in interspace 2 and small similar spots in interspaces 4 to 7. All these blue spots sometimes white-centered. Hindwing: broad white streaks from base over the dorsal area, sometimes small spots at bases of interspaces 3 and 4, one or two discal blue spots and incomplete subterminal and terminal series of small blue spots. Underside: markings more complete. On the hindwing one or two additional spots or streaks on the disc and in the cell.

♀ upperside paler brown, the apical portion of the wing sometimes glossed with blue, markings similar to those in the male but white and larger. On the hindwing there are in addition three white streaks in the cell with two or three spots beyond. Underside similar, the markings broader.



FIG. 148.—EUPLOEA DIOCLETIANA, ♂.

Expanse.—2" to 3".

Common.

Habitat.—The Himalayas, Sikkim, Assam, Cachar, Sylhet.

177. **Euploea klugii**, ♂ ♀ .—Very variable in markings and in the outline of the termen and dorsum of the forewing. Upperside: forewing dark-brown glossed with brilliant blue, generally a spot at apex of cell, a small costal spot, two short streaks beyond apex of cell, subterminal and terminal series of spots, (in the ♀ the latter series wanting) all bluish-white in colour. Hindwing brown, glossed with blue in the middle, subterminal series of spots incomplete or absent. Under-side not glossed with blue, spots more complete and clearly defined. Head and thorax spotted with bluish-white.



FIG. 149.—EUPLOEA KLUGII, ♂.

Expanse.—3" to 4½". Very common.

Habitat.—The Himalayas, Bengal, Sikkim, Bhutan, Assam, Cachar.

The race *E. kollari*, differing very slightly from *klugii* occurs in Southern India.

178. **Euploea crassa**, ♂ ♀ .—Resembles *klugii*, but having on the upperside only a subterminal and terminal series of white spots on both wings. The forewing glossed with blue on the basal portion, the subterminal spots of the forewing increase in size towards the apex and are in some specimens tinged with purple, all markings very variable.

Expanse.—3" to 4 1/3".

Manipur.

Habitat.—Cachar.

Not common.



FIG. 150.—EUPLOEA CRASSA, ♂.



FIG. 151.—EUPLOEA SPLENDENS, ♂.

179. **Euploea splendens**, ♂ ♀ .

Upperside dark brown, the forewing entirely and the hindwing in the middle only glossed with brilliant blue. Forewing: a spot in cell, a discal series of purple spots, some of them centered with white, a subterminal series of six white spots and a terminal series of white dots in the lower portion of the terminal area. Hindwing with a subterminal and terminal series of white spots, on the underside the hindwing has in addition five discal spots beyond the cell. A few white

spots on the head and thorax. In the ♀ the dorsum of the forewing is straight.

Expanse.—3" to 4".

Not common.

Habitat.—Nepal, Sikkim, Assam, Cachar.

180. **Euploea mulciber**, ♂.—Upperside dark-brown entirely glossed with brilliant blue. A spot in apex of cell, 2 spots beyond and below it, a curved series of discal spots, a subterminal and terminal series of spots, all bluish-white. Hindwing uniform except for a large patch of light-brown on the apical area.



FIG. 152.—EUPLOEA MULCIBER, ♂.

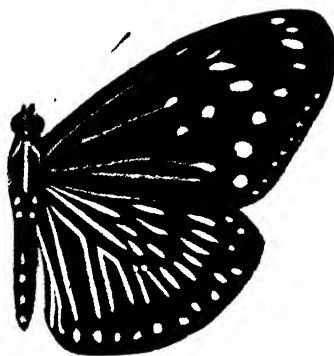


FIG. 153.—EUPLOEA MULCIBER, ♀.

♀ a lighter brown, the forewing only glossed with blue on the discal area, the spots larger and pure white; in addition a streak in cell and two streaks in interspace 1 showing through from the underside. Hindwing with white streaks in cell and in the interspaces beyond and a terminal row of white spots. Underside: the markings broader and more distinct. Head and thorax spotted with white and the abdomen branded with white beneath.

Expanse.—3½" to 4".

Habitat.—The Himalayas, Sikkim, Nepal, Assam, Cachar.

Genus.—MYCALESIS.

Sub-family.—SATYRINÆ.

181. **Mycalesis anaxias**, ♂ ♀.—Upperside dark-brown, the termen narrowly lighter-brown in both wings bearing subterminal and terminal fine, dark lines. Forewing with a pre-apical white bar not reaching either the costa or termen. Underside: forewing blackish-brown with terminal margin broadly paler containing a white centered yellow-ringed black eye spot in interspace 2 and two pre-apical smaller like spots, a very sinuous subterminal and a straighter terminal dark brown



FIG. 154.—MYCALESIS, ANAXIAS, ♂.

Underside.

line, the pre-apical white bar broader than on the upperside. Hindwing very dark-brown with broad terminal area paler and of a purplish tint, bearing seven white-centered yellow-ringed black ocelli, two fine dark brown terminal lines. ♀ paler throughout, the pre-apical white bar broader and reaching the costa. Above is the wet-season-form. In the dry-season-form the ocelli are more or less obsolescent.

Expanse.—2" to 2 1/3".

Not common.

Habitat.—Sikhim, Assam, Cachar.



FIG. 155.—MYCALESIS
CHARAKA, ♀.

Underside.

182. **Mycalesis charaka**, ♂ ♀.—Upperside dark-brown the terminal margins paler with a slender terminal dark line, forewing with a large white-centered yellow-ringed black ocellus about the middle and a much smaller similar apical ocellus. Hindwing uniform. Underside paler, terminal half yellowish bordered by a dark straight line, forewing with a large median coellus as on upperside and 2 pre-apical ocelli. Hindwing usually with 7 similar ocelli, the third from tornus the largest, the fourth very small, sometimes absent. Both wings with subterminal and terminal fine dark lines. In dry-season-forms the ocelli are reduced to white-centered black specks.

Expanse.—2 1/8" to 2 1/2".

Not common.

Habitat.—N. E. Himalayas, Assam, Cachar.

183. **Mycalesis sanatana**, ♂ ♀.—Somewhat similar to *M. charaka*, but on the upperside of the forewing the pre-apical ocellus is sometimes absent or there are one or two additional ocelli above and below it. Underside: the basal dark area of both wings sharply defined by a pinkish transverse band, followed by a series of 4 to 5 ocelli on the forewing and 7 on the hindwing placed on a light-brown background, finally the usual subterminal and terminal fine dark lines. In the dry-season form the ocelli of the underside reduced to minute specks, the dark basal portion bordered by a pinkish band.

Expanse.—1" to 2".

Fairly common.

Habitat.—The Himalayas, Sikhim, the hills of Assam.



FIG. 156.—MYCALESIS
SANATANA, ♂.
Underside.

184. **Mycalesis orseis**, ♂ ♀.—Similar to the foregoing but of a purplish-brown, the forewing with the ocelli of the underside showing through, the middle of the hindwing glossed with purple on the upperside. Underside: the outer third of wings paler, a post-median purplish band bearing a series of white-centered yellow-ringed black ocelli, five on the fore and seven on the hindwings, and the usual slender terminal dark lines. ♀ similar but with a broader purplish band and with six ocelli on the forewing.

Expanse.—2".

Rare.

Habitat.—The Naga Hills in Assam.

185. **Mycalesis perseus**, ♂ ♀.—Upperside brown. Forewing with a white-centered yellow-ringed ocellus in interspace 2 and sometimes a small similar ocellus in interspace 5. Hindwing uniform, occasionally 2 or 3 obscure ocelli present. Subterminal and terminal pale lines. Underside wings crossed by a purplish-white narrow discal line. Forewing with from two to four ocelli, the hindwing with usually seven ocelli, on both wings the ocelli are bordered on both sides by sinuous purplish-white lines. The 3 posterior ocelli on the hindwing in a straight line. In the dry-season form the transverse discal band on the underside obscure or merely indicated by black dots at the veins; the ocelli, if present, as minute dots.

Expanse.— $1\frac{3}{4}$ " to 2".

Habitat.—The Himalayas, Sikhim, Bhutan, Bengal, Assam, S. India.



FIG. 157.—MYCALESIS PERSEUS, ♂.
Underside.

Common.

186. **Mycalesis mineus**, ♂ ♀.—Very similar to *M. perseus*, from which it may be distinguished by the posterior five, not three ocelli on the underside of the hindwing being in a straight line. In the dry-season form the ocelli are reduced to minute white specks.

Expanse.— $1\frac{1}{2}$ " to 2".

Common.

Habitat.—The Himalayas, Sikhim, Assam, Cachar Bengal. The form *M. polydecta*, is the Southern representative, very closely resembling *M. mineus*. Its localities are the West Coast and Central Provinces southwards to Travancore.



FIG. 158.—MYCALESIS MINEUS, ♀.
Underside.

187. **Mycalesis visala**, ♂ ♀.—Closely resembles *M. mineus*, in colour and markings but is somewhat larger.

The forewing as a rule is more pointed at apex and termen not so rounded. The ♂ has the sex mark on the underside of the forewing brightish-yellow and very long, otherwise similar to *mineus*.

Expanse.—2" to $2\frac{1}{8}$ ".

Uncommon.

Habitat.—Sikhim, Bhutan, Bengal, Central Provinces and South India. Also in the Naga Hills at 2,000 to 5,000 feet.

188. **Mycalesis albofasciata**, ♂ ♀.—Upperside dark-brown a large median and a smaller subapical white-centered yellow-ringed black ocellus on forewing and two small like ocelli on hindwing, the terminal margin with the usual fine, dark lines. Underside with a greenish tinge, the basal portion dark, defined on outer edge by very dark-brown transverse line followed by a

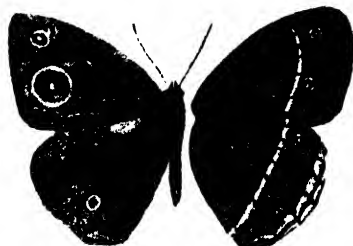


FIG. 159.—MYCALESIS ALBOFASCIATA, ♂

transverse, narrow, whitish band, terminal area of both wings paler, a large median and a small pre-apical white-centered yellow-ringed black ocellus on the forewing and seven like ocelli on the hindwing. Subterminal dark line very sinuous, the terminal line straighter.

Expanse.— $1\frac{3}{4}$ " to 2".

Rare.

Habitat.—The Naga Hills, Assam.

189. **Mycalesis evansii**, ♂ ♀.—Upperside, basal half of wings dark-brown, terminal half paler. Forewing: a very large median and a small sub-apical white-centered yellow-ringed black ocellus, hindwing with two small like ocelli and the remaining ocelli of the underside showing through, specially in the ♀. The terminal margin pale and traversed by the usual dark lines. Underside: paler, a broad, dark bar across the middle of both wings followed by a broadish, dirty white bar, the terminal pale area bearing two ocelli, a median large and a smaller sub-apical on the forewing and seven ocelli on the hindwing, the third and seventh the largest and of equal



FIG. 160.—MYCALESIS EVANSII, ♂.
Dry-season form.

size, the terminal border traversed by an inner fine and an outer broad, dark line. Specimens of the dry-season brood have these ocelli very much reduced in size. The abdomen of the ♂ ends in a tuft of hairs. ♀ much larger than the ♂ and paler.

Expanse.— $1\frac{1}{2}$ " to 2".

Rare.

Habitat.—The Naga Hills, Assam.

Notes.—This and *M. albofasciata* are new species recently discovered in the Naga Hills, Assam.

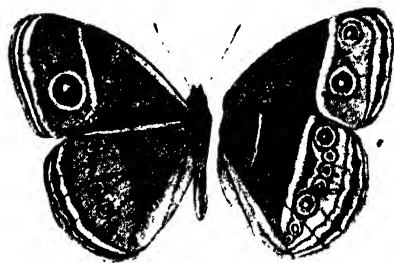


FIG. 161.—MYCALESIS EVANSII, ♀.
Wet-season form.



FIG. 162.—MYCALESIS ADOLPHEII, ♂

190. **Mycalesis adolpheii**, ♂ ♀.—Upperside dark-brown. Forewing with a large white-centered, yellow-ringed black ocellus about the middle and a white-centered pre-apical, much smaller black spot. Hindwing with 2 to 4 similar ocelli. Underside: the terminal margins of both wings broadly paler separated from the dark basal area by a very dark brown line, two ocelli on the forewing and seven on the hindwing.

Expanse.—2".

Not common.

Habitat.—The Nilgiri and Anaimalai Hills in S. India.

191. **Mycalesis oculus**, ♂ ♀.—Resembles *M. adolphi*, but the median ocellus on the forewing much larger and within a large orange-red patch. The small pre-apical ocellus inconspicuous. Underside dark yellowish-red or brown, the dark basal portion of both wings defined by a yellowish band.

Expanse.—2" to 2¼".

Uncommon.

Habitat.—Southern India, Cochin, Travancore.

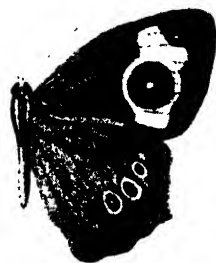


FIG. 163.—MYCALESIS OCULUS, ♂.



FIG. 164.—MYCALESIS MESTRA ♂.

Underside,

192. **Mycalesis mestra**, ♂ ♀

—Upperside dark brown the fringe white, the white discal band of the underside showing through. Forewing with a white-centered yellow-ringed median ocellus and a similar but smaller sub-apical ocellus, the latter sometimes wanting, broad, faint, subterminal and terminal white lines. Hindwing with a white-centered yellow-ringed subterminal ocellus, subterminal and terminal white lines. Underside, basal half of wings thickly covered with pale streaks, a clearly defined white discal band followed by ocelli, a median and two sub-apical on the forewing, three sub-apical and three tornal on the hind-

wing, one or more ocelli on the hindwing are often absent.

Expanse.—2" to 3".

Uncommon.

Habitat.—Bhutan and the hills of Assam. The form, *suaveolens*, found in Cachar, has the basal area on the underside of both wings uniform with no trace of the pale streaks, the white discal band narrower, the subterminal and terminal bands brownish white.

193. **Mycalesis malsarida**, ♂ ♀.—Upperside dark-brown, paler on the terminal area and with subterminal pale lines. Underside similar, the apex of forewing and terminal margin of both wings purplish. The wings crossed by a purplish transverse band followed by a series of white-centered yellow-ringed black ocelli, 4 or 5 on the fore and 7 on the hindwing, the series bordered on both sides by purplish lines, and beyond which are subterminal and terminal paler purple lines. One or two of the ocelli may be absent. In the dry-season form somewhat paler on upperside. The transverse band of the underside narrower and the ocelli reduced to mere specks, subterminal and terminal lines yellowish.

Expanse.—2".

Fairly common.

Habitat.—Assam, Khasia and Naga Hills, Cachar.



FIG. 165.—MYCALESIS MALSARIDA.

Underside.

194. **Mycalesis mnasicles**, ♂ ♀ .—Easily distinguished by its being the largest of the Indian species, by the straight termen of the forewing and very large ocellus. Wings pale-brown; with the base and middle of both wings suffused with yellow. Underside pale pinkish-brown.

Expanse.— $2\frac{3}{4}$ " to 3".

Rare.

Habitat.—Manipur.



FIG. 166.—MYCALESIS
MALSARA ♂.

Underside.

Dry-season form.

195. **Mycalesis malsara**, ♂ ♀ .—Upperside dark-brown, the white bar of the underside showing through, both wings with two or three pale-ringed dark ocelli, often without white centres, and subterminal and terminal pale, fine lines. Underside darker, a discal white bar and terminal fine line; forewing with 4, hindwing with 7 white-centered yellow-ringed black ocelli, the series of ocelli bordered on both sides by irregular lines of pale purple, subterminal line similar. Dry-season form; one or more of the ocelli on the upperside indistinct or absent. On the underside the discal white band very narrow and yellowish white, the terminal margins faintly purple, the ocelli minute. Both wings densely marked with short brown streaks and dots.

Expanse.—2".

Common.

Habitat.—Sikhim, the hills of Assam.

Notes.—The race *lepcha*, very closely resembling *M. malsara*, occurs in the N. W. Himalayas, Central Provinces and in the hills of Southern India. The race *M. kohimensis*, sufficiently distinct from the typical form has lately been found in Manipur and the Naga Hills.

196. **Mycalesis nicotia**, ♂ ♀ .—Upperside brown, forewing with one very large median ocellus and one, sometimes two, smaller subapical ocelli. Hindwing with one or two similar small ocelli, both wings with the usual pale terminal lines. Underside paler, the basal portion of the wings covered with short dark streaks and dots up to the usual transverse discal white band, four ocelli on the forewing and seven on the hindwing, the third from the tornus and the apical ocelli the largest of the series, terminal margins slightly purplish. In the dry-season form the underside has a yellowish tint, the ocelli much smaller. The illustration shown is of the dry-season form.

Expanse.— $2\frac{1}{2}$ " to 3".

Not common.

Habitat.—The Himalayas, Sikhim, Assam.

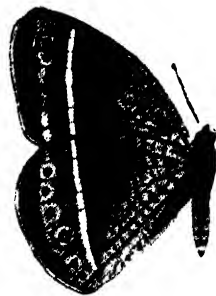


FIG. 167.—MYCALESIS
NICOTIA, ♂.

Underside.

Dry-season form.

197. **Mycalesis misenus**, ♂ ♀.—Very similar to *M. nicotia*, but with the underside much darker, the specialized tuft of hairs on the upperside of the hindwing brown not black as in *M. nicotia*.

Expanse.—2".

Habitat.—Sikhim, the hills of Assam.

198. **Mycalesis junonia**, ♂ ♀.—Upperside dull brown slightly tinged with yellow, slender terminal lines on both wings bright-yellow. Forewing with a large median and a smaller sub-apical ocellus encircled with white; a faint trace of a yellow discal patch, the latter with an orange-yellow ring, the median ocellus Hindwing uniform with two small yellow-ringed black ocelli. Underside: brownish-yellow, terminal lines as on the upperside, both wings near base crossed by a dark yellow line, followed by a silvery discal band, further two ocelli as on upperside encircled also by an outer silvery ring. On the hingwing a curved series of 7 ocelli having a silvery band bordering them on both sides, a large bright yellow spot on the hindwing near the tornus in the ♂. ♀ more yellow on upperside, no ocelli on the hindwing. Underside as in the ♂ but brighter yellow, the basal area of both wings crossed by two darker yellow bands, and the cell of the forewing with a yellow loop.

Expanse.—1 $\frac{3}{4}$ " to 2".

Habitat.—The hills of Southern India.



FIG. 168.—MYCALESIS JUNONIA, ♂
Underside.

Uncommon.

Genus.—ORSOTRIGENA.

199. **Orsotrigena meda** ♂ ♀.—Upperside both wings uniform dark-brown with a fine dark line on the paler terminal margin. Underside brown, both wings with subterminal and terminal slender lines a pure white discal band followed by two ocelli on the forewing and three ocelli on the hindwing, the apical ocellus on the hindwing the smallest. These ocelli are black with white centre encircled first by a dark yellow ring then a brown ring and finally a purplish ring, the two apical ocelli on the hindwing together within the outer purplish ring. In the dry-season form the ocelli and terminal lines and sometimes also the transverse white bar on the underside are indistinct.



FIG. 169.—ORSOTRIGENA MEDA, ♂.
Underside.

Expanse.—1 $\frac{3}{4}$ " to 2".

Very common.

Habitat.—The N. W. Provinces, Bengal, Sikhim, Naga

Hills, Assam, Cachar, and Central Provinces.

Notes.—Race *O. mandata*, almost identical, is the Southern India form.

Genus.—*LETHE*.

200. **Lethe europa**, ♂.—Upperside dark-brown. Forewing with two faint black ocelli followed by two distinct white spots and the white discal bar of the underside showing through, the terminal margins of both wings with pale lines. Underside darker brown, wings crossed near the base by a narrow bluish-white line. On the forewing an oblique discal white bar and on both wings a post-discal series of large black ocelli margined on both sides by silvery purple lines, the ocelli on the forewing curved inwards and those on the hindwing curved outwards, the latter internally broken up by silvery specks. Finally a terminal yellowish band bordered on the inner side by a silvery purple line. ♀ similar but with an oblique broad white discal band on upperside of forewing and a post-discal series of black spots on the hindwing. Underside similar to that in the ♂, markings and ocelli larger.



FIG. 170.—*LETHE*
EUROPA, ♀.
Underside.

Expanse.— $2\frac{1}{2}$ " to 3".

Common.

Habitat.—Northern India. The Himalayas at low elevations, Assam, Cachar.

201. **Lethe drypetis**, ♂.—Upperside dark-brown forewing uniform, hindwing with a series of three or four black eye-spots. Underside brown, the middle and apical areas tinged with lilac, a broad band across the cell, the post-discal series of five ocelli curved inwards, subterminal lilac and terminal yellowish lines. Hindwing: basal and discal lilac bands and a post-discal series of black, yellow-ringed ocelli some of which with broken up centres, middle of wing tinged with lilac and the series of ocelli with lilac lines on both sides, terminal lines as on forewing. ♀ similar but paler, an oblique white discal bar and 2 white preapical spots on upperside of forewing, a white spot above and below black subterminal marks on upperside of hindwing. Underside the markings more distinct, the discal bar on forewing joined by a lilac-white band bearing the ocelli.



FIG. 171.—*LETHE*
DRYPETIS, ♂.
Underside.

Expanse.— $2\frac{1}{2}$ ".

Uncommon.

Habitat.—Southern India.

202. **Lethe rohria**, ♂.—Very similar to *L. drypetis*. Upperside forewing, a costal and two preapical spots white. Hindwing; the ocelli of the underside showing through, forming obscure black spots and two slender subterminal black lines. Underside: forewing, a broad discal and a narrower post-discal white band forming a V, the latter bearing a series of three or four yellow-ringed black ocelli, two

preapical white spots and usual terminal pale lines. Hindwing a basal whitish line, followed by a curved series of six black ocelli with two rings the inner yellowish the outer brown, the whole series bordered on both sides by lilac-white lines and finally two terminal lines as on forewing. ♀ has a broad white discal band on the forewing and a white spot below it in interspace 1. Underside as in the ♂.

Expanse.— $2\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam.

Notes.—The race *Nilgiriensis*, occurring in Central and Southern India differs only slightly from the typical form, the ♂ has an additional white spot on the forewing in interspace 2, the ♀ has the white band divided into separate spots.

203. **Lethe insana**, ♂. —Upperside dark-brown. Forewing, the discal white band of the underside showing through and two very small pre-apical yellowish spots. Hindwing with a post-discal series of round black spots, and subterminal and terminal fine dark lines. Underside a broad oblique pale discal bar and beyond a short pre-apical pale band bearing three small ocelli, apex of wing pale, two dark lines across the cell and a subterminal dark-brown band. Hindwing with a sub-basal, medial, and terminal dark-brown lines; a curved post-discal series of black ocelli with white centres, an inner yellow ring and an outer brown ring, the whole series encircled by pale rings. ♀ has on upperside of forewing a broad oblique white band not quite reaching the tornus and the pre-apical spots white, not yellowish.

Expanse.— $2\frac{1}{4}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas, Bhutan, the hill ranges of Assam, Cachar.



FIG. 172.—*LETHE INSANA*, ♂.
Underside.

204. **Lethe brisanda**, ♂ ♀. —Very similar to *L. insana*, but darker throughout and the underside of the wings with the submarginal ocelli placed on a lilac ground. The discal band of the forewing which is narrow, pale-brown and curved, reaches a point on the dorsum just before the tornal angle, the submarginal spots on the underside of the forewing four in number, the hindwing at vein 4 is prolonged into a more distinct tooth.

Expanse.— $2\frac{1}{4}$ " to $2\frac{3}{4}$ ".

Uncommon.

Habitat.—The Naga Hills, Assam.

205. **Lethe dinarbas**, ♂ ♀. —Also very similar to *L. insana*, but slightly smaller and can be distinguished from *L. brisanda*, by the discal band being broader, pure white and straight, its direction is towards either the tornal angle or to the termen above it. The submarginal spots on the underside of the forewing are three in number.

Expanse.—2" to $2\frac{1}{4}$ ".

Uncommon.

Habitat.—The Naga Hills, Assam.



FIG. 173.—*LETHE*
CONFUSA, ♂.
Underside.

206. ***Lethe confusa***, ♂ ♀.—Upperside brown. Forewing with an oblique discal white band and two obliquely placed pre-apical white spots. Hindwing uniform, the ocelli of the underside showing through. Underside uniform brown. Forewing with the discal white bar as on upperside, a sub-apical lilac patch bearing three ocelli in a straight line and with a short white bar joining it with the costa. Hindwing with two medial lilac lines meeting on the dorsal margin and a strongly curved series of black ocelli with white specks in centre, an inner yellowish ring and an outer lilac ring, the apical ocellus very large.

Expanse.—2".

Fairly common.

Habitat.—The Himalayas, Sikhim, Assam, Cachar.

207. ***Lethe margaritae***, ♂.—Upperside dark-brown with fine subterminal and terminal lines, the fringe yellowish-white. Forewing a yellowish-white discal band and a post-discal series of four dark-brown white-ringed ocelli. Hindwing: a post-discal series of black spots with yellowish rings the lower one or two white-centred. Underside both wings with yellowish-white discal bands and subterminal and terminal lines. Forewing with a post-discal series of five white-centred black ocelli with yellowish rings and placed on a whitish background. Hindwing with six like ocelli, the apical ocellus and that in interspace 2 very large. ♀ markings broader and of a paler white, the cell on the upperside of the forewing crossed by a white band.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ".

Rare.

Habitat.—Bhutan.



FIG. 174.—*LETHE* *MARGARITAE*, ♂.
Underside.

208. ***Lethe naga***, ♂ ♀.—The female is similar to *L. margaritae* the white band of the forewing produced inwardly at the costa, on the underside of the hindwing is a curved whitish violet band reaching to the middle of the wing. A single specimen of the ♀ only has been recorded by Bingham as taken at Margherita in Assam but since then specimens of both sexes have been fairly commonly taken in Manipur near the Burma border. The ♂ differs from the ♀ in wanting the white band on the forewing and the ocelli on the upperside are usually without white centres.

Expanse.—3".

Rare.

Habitat.—Upper Assam and Manipur.

209. **Lethe verma**, ♂ ♀.—Upperside brown. Forewing with an even oblique white discal band ending on the termen just above vein 2 in the ♂, but continued below that vein in the ♀. Hindwing with two or three faint white-centred black ocelli and both wings with pale subterminal and terminal lines. Underside: Forewing with the white oblique band as on upperside, two sub-apical white-centred yellow-ringed black ocelli. Hindwing with two irregular lilac transverse lines and a post-discal series of white-centred black ocelli encircled with a yellowish, a brown and a silvery ring. Two pale terminal lines as usual.

Expanse.—2".

Common.

Habitat.—The Himalayas, Sikkim, Assam, Cachar.



FIG. 175.—**LETHE VERMA**, ♂.
Underside.

210. **Lethe masoni**, ♂ ♀.—Upperside dark-brown. Forewing with a broad discal white band from costa to tornal angle, apex with a faint dusky-ringed black ocelli and two pre-apical small white spots. Hindwing uniform dark-brown but for the apex and fringe which are white. Underside forewing same as on upperside but paler, the discal white band broader, a white centred dusky-ringed black ocelli with a white spot above it to the costa, terminal border with 2 pale lines, the fringe alternate white and brown. Hindwing, greyish-brown the discal area crossed by two sinuous dark lines followed by a series of six large black ocelli with white centres, an inner yellowish and an outer brown ring, subterminal and terminal dark border lines; the extreme apex and fringe white.



FIG. 176.—**LETHE MASONI**, ♂.
Underside.

Expanse.—2½" to 2¾".

Uncommon.

Habitat.—Sikkim.

211. **Lethe sidonis**, ♂ ♀.—Upperside dark-brown with a pale yellowish pre-apical spot, more distinct in the ♂. Hindwing with a series of obscure black post-discal spots. Both wings with an indistinct subterminal paler border. Ocelli and border more distinct in the ♀. Underside: Forewing, terminal half paler, the apex yellowish-brown, a discal and post-discal lilac-white line the latter bearing outwardly 3 small ocelli in the ♂ and 4 ocelli in the ♀. Hindwing, the basal half crossed by fine lilac lines followed by a series of white-centred black ocelli of which the apical and the second from the tornus are the largest, each ocellus with an inner yellowish, then a brown, and an outer lilac ring. Subterminal line lilac and terminal yellowish-brown border.



FIG. 177.—**LETHE SIDONIS**, ♂.
Underside.

Expanse.—2" to 2½".

Common.

Habitat.—Sikhim, Bhutan, Assam, Sylhet.

Notes.—A form occurs under the name of *L. vaivarta*, in the N. W. Himalayas, it differs from *L. sidonis* in the termen of the hindwing being much less scalloped and without a trace of the post-discal black spots. On the underside the markings are very obscure.

212. ***Lethe nicetella***, ♂ ♀.—Similar to *L. sidonis*, and somewhat smaller.

Upperside Forewing, no pre-apical spot in ♂, a medial and a pre-apical large white spot on costa in ♂. Hindwing, the post-discal series of black spots more distinct. Underside forewing the terminal half distinctly paler the apex broadly ferruginous. Hindwing as in *L. sidonis*.

Expanse.—2".

♂ common. ♀ rare.

Habitat.—Sikhim, at 7,000 feet.



FIG. 178.—*LETHE NICETELLA*, ♂.

Underside.

213. ***Lethe siderea***, ♀.—Very similar to *L. nicetella* but with longer transverse lines on the underside of the hindwing and the ocelli with brighter orange bordering. ♀ paler brown than the ♂.

Expanse.—2".

Rare.

Habitat.—Sikhim at 7,000 feet; Naga Hills and Manipur at 6,000—8,000 feet. May to October.

214. ***Lethe nicetas***, ♂ ♀.—Similar in size to *L. sidonis* and easily recognised by the broad yellow post-discal bands on the underside and the whitish oblique band of the forewing, both of which show through to the upperside, the eye-spots of the hindwing are of unequal size.

Expanse.—2" to 2½".

Rare.

Habitat.—The Himalayas, Sikhim, Manipur at above 8,000 feet in May-June and again in August-September.

215. ***Lethe maitrya***, ♂ ♀.—Similar to *L. nicetas*, but on the upperside is darker, the ♂ has on the forewing the pale band of the underside showing through, and a pale pre-apical costal spot. Hindwing less produced at apex of vein 4. Underside, forewing with a short oblique mark across the cell. Hindwing the transverse silvery lines crossing basal area more regular and clearly defined. Ocelli brown not black and not bordered inwardly with yellowish.

Expanse.—2".

Very common.

Habitat.—N. W. Himalayas, Sikhim, Bhutan, Nepal.



FIG. 179.—*LETHE*

MAITRYA, ♂.

Underside.

216. **Lethe kanjupkula**, ♂.—Similar to *L. siderca*, in shape of wings. Upperside greenish-brown. Forewing uniform. Hindwing with 4 or 5 faint dark subterminal spots and a subterminal waved dark line. Under-side forewing an oblique post-discal pale band from costa to tornal angle, three sub-apical dark spots, a fine black terminal line bordered inwardly by a fine white line and outwardly by a yellowish-brown border. Hindwing basal area crossed by numerous irregular lilac lines, outwardly bordered by a dark-brown line, a series of six white-centred, yellow-ringed black ocelli with outer ring of lilac, the tornal spot bipupilled, a subterminal broad dark line followed by lilac lunules and a terminal yellowish-brown border. ♀ paler, the markings of the underside duller and redder, the basal half of hindwing dusted with violet scales, the lilac surrounding the subterminal ocelli broader towards the apex, a post-discal yellow band and subterminal area near the tornus red-brown.

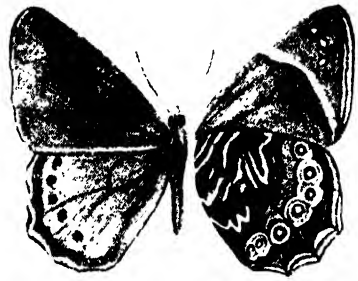


FIG. 180. *LETHE KANJUPKULA*, ♂.

Expanse.—1½" to 2".

Rare.

Habitat.—Manipur and Naga Hills.

217. **Lethe visrava**, ♂.—Upperside dark-brown. Forewing with the ocelli of the underside showing through, a distinct subterminal white line. Hindwing with a post-discal series of black ocelli bordered paler inwardly and broadly white outwardly, followed by a row of brown markings, subterminal white and terminal fine dark lines. Underside forewing with a sub-apical series of three or four ocelli and a subterminal white line. Hindwing basal area crossed by white lines, a post-discal series of six ocelli on a pale background and a conspicuous subterminal white line. The ♀ has the hindwing almost entirely white and the forewing likewise white to the cell, the terminal border of the hindwing is reddish yellow.

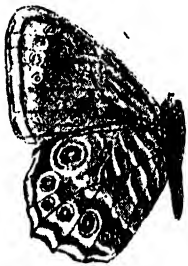


FIG. 181.—*LETHE VISRAVA*, ♂.
Underside.

Expanse.—2" to 2½".

Very rare.

Habitat.—Sikkim, Bhutan. Flies in June.

218. **Lethe scanda**, ♂.—Upperside deep blue, both wings towards the termen broadly silvery blue. Hindwing with three ocelli. Under-side Forewing basal area, a band across the cell and another across the disc olive-brown, and a series of four white-centred obscure ocelli. Hindwing basal area crossed by two dark lines and a post-discal row of white centred-black ocelli with an inner yellowish and outer silvery purple ring. ♀ upperside brown, forewing with a faint



FIG. 182.—*LETHE SCANDA*, ♂.
Underside.

yellow discal bar and three faint ocelli with a yellow spot beyond. Hindwing with four similar ocelli. Underside similar to ♀. Forewing with bands crossing the cell and the disc yellowish-white; hindwing with the outer of the two basal dark lines bordered with dull yellow.

Expanse.—2" to 2½".

Not common.

Habitat.—Sikhim, Bhutan, the Naga Hills at 6,000—8,000 feet, from June to September.



FIG. 183.—*LETHE*
BHAIRAVA, ♂.
Underside.

219. ***Lethe bhairava***, ♂ ♀.—Upperside dark-brown, resembling the ♀ of *L. scanda*. Forewing with three round yellowish patches beyond the cell and hindwing bearing a post-discal series of four blind ocelli, in the ♂ each pale-ringed and in the ♀ encircled by a broad yellowish ring. Underside brightish-red, the bands across cell and disc of forewing dark-red, the discal band in the ♀ bordered by a few white spots, the post-discal series of ocelli on hindwing with outer reddish not silvery-purple rings.

Expanse.—2¾" to 3".

Uncommon.

Habitat.—Sikhim, Bhutan, the Naga Hills. At 5,000—6,000 feet, flies from May to August.

220. ***Lethe gulnihal***, ♂.—Similar to *L. bhairava*, but smaller, with the upperside darker, without spot of any kind and the underside golden-brown. The ♀ differs on the underside by being a brighter yellow and having the ocelli smaller and not well defined.

Expanse.—2½".

Exceedingly rare.

Habitat.—Bhutan.

221. ***Lethe latiaris***, ♂.—Upperside dark grey-brown. Underside paler; Forewing two dark lines across the cell the inner continued to vein 1, a discal line bordered outwardly with faint lilac, a post-discal series of four pale ocelli the series bordered on both sides by dark bands. Hindwing a sub-basal and a discal brown band, a series of six ocelli similar to the ocelli on the forewing but with white centres. Both wings with subterminal and terminal brown lines. ♀ similar but on the upperside of the forewing with a yellowish pre-apical spot, and on the underside a broad lilac border to the discal band.

Expanse.—2½".

Fairly common.

Habitat.—Sikhim, Assam.

Notes.—Two brooded, appearing in April-May and again in October, up to 8,000 feet.

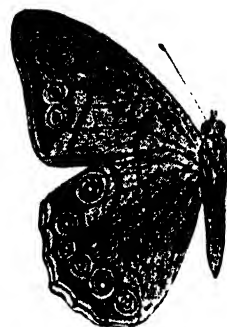


FIG. 184.—*LETHE*
LATIARIS, ♂.
Underside.

222. **Lethe kansa**, ♂ ♀.—Upperside brown. Forewing without markings, hindwing with five black ocelli, subterminal and terminal dark lines with an intermediate yellowish line. Underside paler brown, both wings crossed by sub-basal and discal maroon-brown bands, followed by ocelli, five on the fore and six on the hindwing, subterminal and terminal dark lines, margined inwardly with lilac. Apex of forewing lilac-white. On the tornus of hindwing a conspicuous triangular white spot. ♀ differs from the ♂ in having on both sides of the forewing a distinct discal dark line outwardly bordered by white spots.

Expanse.— $2\frac{3}{4}$ ".

Common.

Habitat.—Sikhim, Assam, Cachar, Manipur.



FIG. 185.—**LETHE KANSA**, ♂.
Underside.

223. **Lethe vindhya**, ♂ ♀.—Very similar to *L.*

kansa, but wings somewhat more rounded and tail at vein 4 of hindwing shorter, the ocelli larger. On underside of hindwing the third ocellus from the tornus placed inwards and out of line. Apex of the forewing purplish and the terminal third of both wings tinged with purple.

Expanse.— $2\frac{3}{4}$ " to 3".

Rare.

Habitat.—Sikhim, Bhutan, Assam.

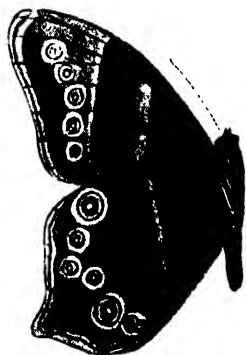


FIG. 186.—**LETHE VINDHYA**, ♂.
Underside.

224. **Lethe satyavati**, ♀.—The ♂ is unknown. The ♀ on the upperside brown, paler towards the termen. Forewing without markings. Hindwing with darker brown submarginal faint spots. Underside paler brown, the terminal third of wings lilac, a sub-basal dark line across both wings outwardly margined with lilac, the forewing with an irregular discal brown line and the

hindwing with a discal, much-angled dark-brown line within which and just beyond the apex of the cell is a distinct lilac spot. A series of 5 smallish ocelli on the lilac area of the forewing followed by an irregular dark band and the terminal border reddish-brown. The hindwing with a series of six large ocelli with their centres minutely speckled with white, the upper ocellus with a distinct white spot in centre. These ocelli are followed by a wide dark-brown irregular line, then a lilac line and finally a yellowish-red border.

Expanse.— $2\frac{1}{4}$ ".

Exceedingly rare.

Habitat.—Two specimens only of the ♀ are recorded from Sibsagar in Assam taken many years ago. I have since taken three more specimens, all females, at Dilkhoosh



FIG. 187.—**LETHE SATYAVATI**, ♀.
Underside.

in the Lakhimpur district of Cachar, 1 in July and 2 in August 1921. All the above are wet-season specimens. A further specimen recorded from Manipur, of the dry-season form, taken in April, is greyish-brown.

225. **Lethe serbonis**, ♂ ♀.—Upperside uniform brown with slight bronzy reflection, ocelli of underside faintly showing through. On forewing of ♀ a pale post-discal band and a pale pre-apical spot, hindwing with five black ocelli, the sub-tornal ocellus with a white centre. Underside: Forewing with a pale bar across the cell. Both wings crossed medially by dark lines. Forewing with a broad discal band, in the ♀ bordered outwardly by pale yellow followed by a dark band and sub-terminal and terminal pale lines. Three ocelli on the forewing and six on the hindwing. The ocelli white-centred, with an inner and an outer pale-brown ring and an intermediate darker ring.



FIG. 188.—*LETHE SERBONIS*, ♂.
Underside.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Local and not very common.

Habitat.—Sikkim, Bhutan, at 7,000—9,000 feet. June to September.

226. **Lethe sinorix**, ♂ ♀.—Resembles *L. kansa*, but is easily recognized by the shape of the forewing and the long pointed tail of the hindwing, also by the sharply defined transverse dark bands of the underside. Upperside with three yellowish sub-apical patches on the forewing and a reddish extended submarginal area on the hindwing, the ocelli black, much larger than on the underside. The ♀ with the hindwing almost entirely light-red and the yellowish band of the forewing paler.



FIG. 189.—*LETHE SINORIX*, ♂.
Underside.

Expanse.—3". Common.

Habitat.—Sikkim, Bhutan, Assam, Cachar, the Khasia and Naga Hills.

Notes.—Flies from July to September, common in all the above localities except Sikkim where it is rare.



FIG. 190.—*LETHE CHANDICA*, ♂.
Underside.

227. **Lethe chandica**, ♂ ♀.—Upperside both wings brownish-black, fringe white alternated with brown. Hindwing shaded with yellowish-red posteriorly. Underside pale greyish-brown shaded with pale purple and crossed by sub-basal and discal maroon lines, the latter angulate at vein 4. Forewing with a series of four to six almost straight

ocelli, hindwing with a curved series of six larger ocelli with their centres broken up. ♀ Upperside: Forewing obliquely crossed by a broad angulated white bar, a small pre-apical white spot and a series of faint brown ocelli on a pale ground. Hindwing with a curved series of spots of which the apical spot is the largest. Underside as in the ♂ but the transverse lines broader, the oblique white bar as on the upperside.

Expanse.— $2\frac{3}{4}$ " to 3".

Fairly common.

Habitat.—Sikhim, the hills of Assam.

228. **Lethe distans**, ♂ ♀.—Upperside light greyish-brown, the apical half of hindwing orange-red with 5 black spots, the upper two much the larger. The forewing has one or two pre-apical pale spots. Underside very similar to that of *L. chandica*, but the ground colour of both wings more yellow and the purple shadings brownish. ♀ similar to ♀ of *L. chandica* but the ground colour of the upperside a light yellow-red.

Expanse.— $2\frac{3}{4}$ " to 3".

Rare.

Habitat.—Sikhim, Bhutan, Assam.

Notes.—More females than males have been found.

A very rare species.



FIG. 191.—LETHE
DISTANS, ♂.

229. **Lethe mekara**, ♂ ♀.—Very similar to *L. chandica*, the subterminal area of hindwing yellowish-red with a series of four black spots. ♀ with light-red upperside and more extended with oblique band on the forewing. Underside both sexes the discal dark line straighter, that on the hindwing only slightly angulated and not produced towards the line of ocelli as in *L. chandica*.

Expanse.— $2\frac{3}{4}$ " to 3".

Not rare.

Habitat.—Darjeeling, Sikhim, Assam.

Notes.—*L. mekara*, and *L. chandica* may easily be confused, but in the former the distinguishing character is in the discal band of the hindwing on the underside being but little excurved.

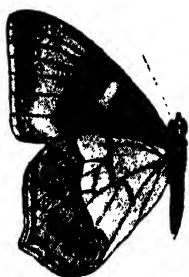


FIG. 192.—LETHE
TRISTIGMATA, ♂.
Underside.

230. **Lethe tristigmata**, ♂ ♀.—Upperside grey-brown. Underside much paler, yellowish-brown in ♂ and almost yellow in ♀. On the upperside the ♂ with 4, the ♀ with 5 pale post-discal spots to the forewing and on the hindwing the ♂ with 5, and the ♀ with 6 blind dark-brown spots.

Expanse.—2".

Exceedingly rare.

Habitat.—Sikhim at elevations of 9,000—10,000 feet near the borders of Nepal. Flies in July.



FIG. 193.—*LETHE*
ATKINSONIA, ♂.
Underside.

231. ***Lethe atkinsonia***, ♂ ♀.—Upperside yellowish-brown. Forewing crossed by a yellowish short band bordered on both sides with dark-brown, discal and post-discal bands from costa to dorsum. Hindwing a post-discal series of black spots on a bright yellowish band bordered with dark-brown and a faint yellowish subterminal waved line. Underside paler, the markings bright yellow. A subterminal row of three to four pale spots, beyond which is a broad line and an outer finer dark line on the forewing. Hindwing, basal and sub-basal dark-brown bands followed by a yellow discal band, a post-discal dark-brown band and a series of 5 ocelli of equal size on a pale band, a subterminal silvery and terminal yellow line.

Expanse.—2".

Habitat.—Sikhim, Bhutan.

Rare.

232. ***Lethe moelleri***, ♂ ♀.—Similar to the foregoing but with the markings of the underside more distinct and the discal dark band on the forewing not so broad. The ocelli on the underside of the forewing almost wanting, the subterminal dark band broad. On the hindwing six ocelli of equal size except the sub-tornal ocellus which is larger.

Expanse.—2" to 2½".

Habitat.—Sikhim.

Rare.



FIG. 194.—*LETHE*
MOELLERI, ♂.
Underside.

233. ***Lethe kabrua***, ♂ ♀.—Upperside forewing reddish-



FIG. 195.—*LETHE KABRUA*, ♂.

- brown a yellowish bar across the cell, discal and post-discal yellowish-white bars the latter with three faint small spots and a broad subterminal dark band. Hindwing apex of vein 4 much produced and pointed. A series of five round black spots. Underside, forewing markings more distinct, the post-discal area paler. Hindwing sub-basal and discal dark bands, a broad bar between them violaceous, a post-discal series of six blue-centred black ocelli of equal size, on a pale background followed by a dark line and a terminal fine pale line. ♀ similar to the ♂ but the ground colour of the underside tinged with yellowish-brown.

Expanse.—2".

Habitat.—Manipur.

Rare.

234. ***Lethe jalaurida***, ♂ ♀.—Similar to *L. kabrua*, but the ocelli on the upperside of the hindwing placed on a pale area. Underside of the forewing with

three or four faint ocelli, (reduced to white specks in *L. kabrua*) apex and termen of wing bright-yellow. Hindwing with a basal white line (wanting in *L. kabrua*), in addition to the sub-basal, medial and discal zigzag white lines, a series of six blue-centred ocelli as in *L. kabrua*, but the ocellus in interspace 4 smaller than the ocelli in interspaces 5 and 6, a subterminal irregular white line and a broader terminal yellowish line.

Expanse.—2".

Uncommon.

Habitat.—The Himalayas, Sikhim.

235. **Lethe baladeva**, ♂ ♀.—Upperside brown, the markings of the underside showing through, more clearly on the hindwing. Hindwing with black eye-spots of unequal size. Underside forewing yellowish-brown with yellowish-white transverse bands, the post-discal band silvery white followed by a series of five straight ocelli outwardly margined by a yellowish line, beyond the yellowish-white subterminal band is a bright yellowish terminal line. Hindwing a prominent silver-white band across middle of wing and an outer similar coloured post-discal line, some oblique costal yellowish-white lines, a post-discal series of 6 silver-centred, yellow-ringed ocelli, the apical ocellus very large, the tornus bearing two prominent reddish-yellow marks. The hindwing produced at apices of vein 2 and 4. ♀ similar.

Expanse.—2¼" to 2½".

Rare.

Habitat.—The Himalayas, Sikhim.

Flies in June at from 7,000—9,000 feet.



FIG. 196.—LETHE BALADEVA, ♂.
Underside.



FIG. 197.—LETHE RAMADEVA, ♂.
Underside.

236. **Lethe ramadeva**, ♂ ♀.—On upperside resembles *L. baladeva*, but is traversed by broader yellow bands which show through to the upperside. The ocelli of the hindwing large and a broad red-brown area before the tornus. No basal yellowish streaks as in *L. baladeva*.

Expanse.—2¼" to 2½". Rare.

Habitat.—Sikhim and Bhutan.

Flies during July and August at high elevations.

237. **Lethe sura**, ♂ ♀.—Upperside dark-brown. Forewing a faint pre-apical costal yellow spot and a broad dark discal band. Hindwing with dark bands and a series of five round black spots. Underside forewing two bands across the cell, a discal and sub-terminal band dark-brown, a silver streak between the dark bands in the cell a discal pale band and a pre-apical costal white spot, three small ocelli and a terminal brown line. Hindwing

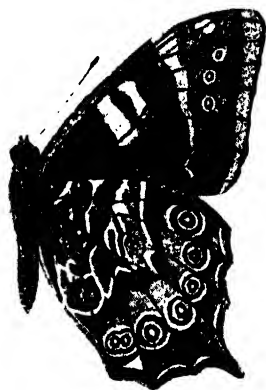


FIG. 198.—LETHE SURA, ♂.
Underside.

basal area crossed by several irregular silver lines, a broad dark discal band followed by six large ocelli, a subterminal silvery and a terminal yellowish line. The ocelli white-centred and with an inner yellow, a brown and an outer silvery ring. ♀ lighter in colour on upperside and the ground colour of underside paler.

Expanse.—3".

Fairly common.

Habitat.—Sikhim, Bhutan, Assam.

238. **Lethe dura**, ♂ ♀.—Almost identical with *L. sura*, but on the upperside the terminal margin of the wings is much paler. The underside is also much paler and the series of ocelli outwardly bordered with silvery-white and reduced much in size.

Expanse.—3".

Fairly common.

Habitat.—Sikhim, Bhutan.



FIG. 199.—*LETHE*
GOALPARA, ♂.
Underside.

239. **Lethe goalpara**, ♂ ♀.—On upperside is scarcely distinguishable from *L. sura*. Dark-brown with a brown longitudinal band and five large black spots on the hindwing. It cannot be confused, however, on account of the washed out yellow-grey appearance of the undersurface.

Expanse.—3".

Not rare.

Habitat.—The Himalayas, Sikhim, Assam.

Flies from end of July to November.

240. **Lethe bhadra**, ♂ ♀.—Upperside dark-brown. Forewing two streaks in cell, a streak in interspace 1 and a spot beyond it, discal and subterminal areas with several large and small spots, all the markings yellowish-white. Hindwing costa and upper portion of termen and apex dark-brown, rest of the wing tawny yellow, a dark patch beyond apex of cell and a subterminal series of square and round dark spots. Fringe yellowish alternated with dark-brown. Apex of vein 4 of hindwing well produced. Underside beautifully mottled in shades of black, brown and yellow, the post-discal and subterminal areas washed with pale purple. Forewing with one large dull black ocellus and a smaller yellow-ringed ocellus above it in interspace 5. Hindwing with eight brown-ringed yellow ocelli with minute white specks to a black centre, the tornal ocellus bi-pupilled, terminal border yellowish.

Expanse.—3½".

Habitat.—Sikhim, the hills of Assam.

Not common.



FIG. 200.—*LETHE BHADRA*, ♂.
Underside.

241. **Lethe pulaha**, ♂ ♀ —Similar to *L. bhadra*, but smaller and darker. The hindwing at apex of vein 4 less produced. The markings on upperside yellower, the hindwing all over brown with small yellow discal and subterminal spots. Underside much more heavily mottled, the apex only of forewing and a greater portion of the hindwing shaded with purple. The ocelli the same as in *L. bhadra*, but with larger black centres; terminal border not yellowish. On the upperside of forewing the medial vein and bases of veins 1 and 2 yellow.

Expanse.— $2\frac{3}{4}$ ".

Not common.

Habitat.—The Himalayas, Sikhim, Bhutan, the hill ranges of Assam.

Flies from March to August and ascends in Sikhim to 11,000 feet.

242. **Lethe yama**, ♂ ♀ —Upperside pale to dark-brown; fringe white, the apices of the veins brown. Forewing with faint discal and subterminal dark bands, 2 or 3 obscure dark ocelli, costa with two white median and two pre-apical short streaks. Hindwing with a series of dark ocelli and a subterminal dark-brown band. Underside paler. Wings crossed by numerous greyish-white and dark-brown lines and discal broad dark bar followed by a paler terminal area bearing on the forewing 5 pale ringed ocelli and on the hindwing 7 like ocelli with larger black centres; subterminal and terminal dark-brown lines. The basal half of wing dusted with brown scales.

Expanse.—3" to $3\frac{1}{2}$ ".

Uncommon.

Habitat.—The Himalayas, Sikhim, Bhutan. Flies in May to July at elevations of 6,000—7,000 feet. The caterpillar feeds on bamboo.



FIG. 201.—LETHE YAMA, ♂.
Underside.

Genus—ZIPŒTIS.

243. **Zipoetis saitia**, ♂ ♀ —Upperside black or dark brown. Forewing with a broad white oblique band from costa to vein 2. Hindwing with a white post-discal band parallel to the terminal margin. Underside similar but paler, a subterminal pale line on both fore and hind wings. On the hindwing a series of five white-centred black ocelli with an inner ring of yellow and an outer ring dark-brown, all enclosed in a narrow silver band, the pre-apical ocellus very large and bi-pupilled, the apical and tornal ocelli very small, ♀ paler and with the white bands somewhat broader.

Expanse.— $2\frac{1}{2}$ ".

Rare.

Habitat.—The hills of Southern India, Cochin and Travancore. Flies from April to September.



FIG. 202.—ZIPŒTIS
SAITIS, ♀.
Underside.

244. **Zipoetis scylax**, ♂ ♀.—Upperside black with somewhat lighter terminal border and subterminal and terminal pale lines. Underside similar but paler. Forewing with a series of five small pale-ringed white-centred ocelli on a pale band. Hindwing with a series of ocelli as in *Z. saitis*, enclosed in a silvery band.

Expanse.—2".

Rare.

Habitat.—Sikhim and hill ranges of Assam.

Genus.—ORINOMA.



FIG. 203.—ZIPOETIS
SCYLAX, ♂.
Underside.

245. **Orinoma damaris**, ♂ ♀.—Upperside dull black. Forewing basal half of cell yellowish-red with 2 black spots on its upper and lower margins, outer half of cell in its lower portion with a greenish white streak, the interspaces of the rest of the wing bearing greenish white spots and streaks. Hindwing the cell with a transversely divided streak, the remainder of the wing bearing streaks and spots as on forewing. Underside similar, the markings more distinct. Fringe of both wings alternately black and white. Body in front with orange hairs, abdomen beneath white with black lines.

Expanse.—2 $\frac{3}{4}$ " to 3".

Habitat.—The Himalayas, Sikhim, Bhutan, Assam, Cachar.



FIG. 204.—ORINOMA
DAMARIS, ♂.

Fairly common.

Genus.—RHAPHICERA.

246. **Rhaphicera satricus**, ♂ ♀.—Upperside dark orange. Forewing a narrow and a broad band across the cell a broader band beyond the cell, highly angled and continued to vein 2, black. Square black spots in interspaces 2 and 5, a short oblique bar from costa to the upper black spot, the apex and termen down to vein 3 broadly, thence narrowly to tornus, black. Hindwing: the dorsum black, an oblique bar from cell towards apex of wing, a post-discal series of four large spots and subterminal and terminal fine lines, black. Underside paler, the spots formed into white-centred ocelli, the upper ocellus yellow-ringed on the forewing. The hindwing is without the oblique black bar. A series of six white-centred ocelli, that in interspace 4 minute.

Expanse.—2 $\frac{1}{2}$ ".

Rare.

Habitat.—Sikhim, Bhutan, the Naga Hills in Assam.



FIG. 205.—RHAPHICERA
SATRICUS, ♂.
Underside.

247. **Rhaphicera moorei**, ♂ ♀.—Somewhat resembling *R. satricus*, but smaller and dusky yellow the black markings more extensive. Underside dull yellow, the markings as in *R. satricus*, but the cell of the hindwing crossed by two or three slender black lines.

Expanse.— $1\frac{3}{4}$ " to 2".

Rare.

Habitat.—N. W. Himalayas, Sikhim.



FIG. 206.—RHAPHICERA MOOREI, ♂.

Genus—SATYRUS.

248. **Satyrus schakra**, ♂ ♀.—Upperside pale brown. Forewing with four large orange spots the apical one the largest bearing a black white-centred ocellus, a subterminal dark brown line. Hindwing with three to six black white-centred, orange-ringed ocelli. Underside greyish-white, discal area orange, two lines in cell, an irregular discal line beyond its apex not reaching the tornus, orange-brown; subterminal and terminal dark lines. A large sub-apical ocellus and a minute ocellus beyond it towards apex of wing. Hindwing basal half crossed by two slender lines and a median line, orange-brown, the six ocelli as on upperside but each ocellus with rings of pale yellow and brown, alternately two of each, a subterminal and terminal fine brown line. ♀ similar. The orange spot bearing the ocellus on the upperside of the forewing, inwardly



FIG. 207.—SATYRUS SCHAKRA, ♂.

Underside.

bordered by a broad, pale, short line.

Expanse.— $2\frac{1}{4}$ ".

Common.

Habitat.—Western Himalayas to Sikhim.

249. **Satyrus mærulea**, ♂ ♀.—Similar to the preceding in size and colouring but the ♂ lacks the grey sexual spots of the forewing and has the reddish yellow-coloured foreground of all the ocelli somewhat more extended.

Expanse.— $2\frac{1}{4}$ ".

Rare.

Habitat.—N. W. Himalayas, Kashmir. Flies together with *S. schakra*.

250. **Satyrus menava**, ♂.—Upperside dark yellowish-brown the markings of the underside showing through, fringe white, the apices of the veins black. Forewing with a sub-apical black, white-centred, yellow-ringed ocellus and a much smaller ocellus nearer the apex. Hindwing with two or three similar ocelli near the tornus. ♀ similar to the upperside in *S. schakra* but the yellow-brown post-discal band on the forewing much broader, in one compact area and not composed of separate patches. Underside darker, the orange-yellow on the disc of the forewing extended into the cell, the inner dark-brown line crossing the cell bordered on both sides with white and apex of cell, white. Hindwing dusted with grey scales.

Expanse.— $2\frac{1}{4}$ ".

Uncommon.

Habitat.—N. W. Himalayas, Kashmir, up to 14,000 feet. Flies from June—August.

Genus.—PARARGE.

251. **Pararge gafuri**, ♂ ♀.—Upperside yellowish-brown darker at base. Forewing terminal area and apex black, inwardly pale bordered, a small white-centred black ocellus in interspace 5, and a narrow terminal margin of the ground



FIG. 208.—PARARGE GAFURI, ♂.

colour. Hindwing, the subterminal pale area bearing five black spots in interspaces 1, 2, 3, 5, and 6, the tornal spots only white-centred, the subterminal pale area outwardly bordered by a black line interrupted by the veins, followed by a very fine pale line and a terminal line of the ground colour. Underside paler, a subterminal pale lilac silvery band, a subapical black ocellus ringed with yellow and centered with bluish-white and outwardly ringed with darker yellow, the silvery

band bordered on both sides by dark yellowish-brown lines, the outer border followed by a narrow pale lilac line then a black line and a marginal line of the ground colour. Hindwing apex of cell marked with darker yellow, a subterminal pale lilac silvery band with white-centred yellow-ringed black ocelli in interspaces 1, 2 and 6, the tornal ocellus small; this band inwardly bordered by a dark yellow line projected outwardly at vein 4 and bordered outwardly by a similar coloured line, followed by a narrow silvery lilac line, a narrow black line, and a broader terminal line of the ground colour as in the forewing. The ♀ is paler and larger than the ♂.

Expanse.— $2\frac{1}{2}$ ".

Rare.

Habitat.—Kirbari in the Naga Hills at 6,000 to 7,000 ft. from July to October.

Pararge cashmirensis, a form somewhat similar occurs in Kashmir.

Genus.—NYTHA.

252. **Nytha baldiva**, ♂ ♀.—Upperside darkish brown, fringe white alternated with brown, wings crossed by a post-discal broad yellowish band the outer margin of which defined by a dark line. On the band there are two white-centred black ocelli on the forewing and a very small sub-tornal white-centred black ocellus on the hindwing. Underside greyish dusted with numerous black and grey streaks, central portion of forewing yellowish. Hindwing with a post-discal curved transverse band paler than the rest of the wing and defined on both sides by dark zigzag lines. Ocelli as on upperside. The sex mark in the ♂ is a dark band of scales placed on either side of the median vein on the upperside of the forewing.

Expanse.—2".

Habitat.—N. W. Himalayas, Kashmir, Tibet, at 7,000-10,000 feet in June and July.

253. **Nytha parisatis**, ♂ ♀.—Upperside dark brown, lower half of termen of forewing and termen of hindwing bluish-grey. Forewing with a pre-apical white-centred black spot and a plain black spot in interspace 2, and two intermediate white dots. Hindwing with a sub-tornal white-centred black spot. Underside pale-brown thickly marked with fine white streaks all over the hindwing and on the costa, cell and apical area of the forewing, both wings crossed by a winding white discal band inwardly defined by a dark brown line, subterminal and terminal narrow brown lines. Forewing with two ocelli as on upperside but larger and ringed with yellow, hindwing with an additional ocellus in interspace 5.

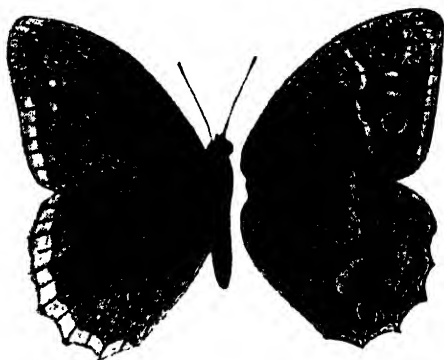


FIG. 209.—*NYTHA PARISATIS*, ♂.

Expanse.—2½" to 3".

Nowhere rare.

Habitat.—N. W. Himalayas.

Genus—*MANIOLA*.

254. **Maniola davendra**, ♂ ♀.—Upperside forewing orange-yellow, margins greyish-brown, a round black pre-apical spot. Hindwing uniform greyish-brown, termen highly scalloped, fringe white. Underside the orange-yellow on the basal half is bordered by a pale band and on the terminal half by a dark zigzag line, termen narrowly pale. A pre-apical white-centred, yellow-ringed black ocellus with a slender brown outer ring, the margin of wing defined by a black line. Hindwing paler than on upperside, a median narrow white band, three black spots ringed with white, one near apex of interspace 1, another in interspace 2, the third in interspace 5, smaller: beyond these a subterminal whitish narrow band, the margin defined by a fine black line. The ♀ differs from the ♂ in having a dark winding discal band cross both wings, the basal area within the band is greyish-brown on the forewing, with a shading of yellow outwardly.

Expanse.—2" to 2¼".

Habitat.—N. W. Himalayas, at elevations of 9,000-12,000 feet in June and July.

255. **Maniola cheena**, ♂.—Upperside brown. Forewing with a pre-apical black ocellus, yellow-centred and on a broad orange patch: in some specimens a much smaller ocellus in interspace 2. Hindwing uniform. Underside forewing dull-orange, costa, apex, terminal and dorsal margins greyish-brown, a discal and a subterminal transverse dark line, the pre-apical ocellus ringed with yellow. Hindwing greyish-brown with fine transverse brown streaks, a zigzag curved discal and

a subterminal winding dark line, the tornal area with one or two minute black yellow-ringed ocelli. ♀ Upperside forewing with a large post-discal orange area bearing a round black spot in interspace 2, a smaller one in interspace 3 and a pre-apical ocellus as in the ♂. Underside with the black spot in interspace 2 on the forewing as on the upperside but with a patch of yellow.

Expanse.— $2\frac{1}{4}$ ".

Habitat.—N. W. Himalayas, Kashmir.

256. **Maniola pulchella**, ♂ ♀.—Upperside forewing dark-yellow, costa, termen and dorsum greyish-brown; a pre-apical round black spot. Hindwing uniform greyish-brown, termen slightly scalloped. Underside paler-grey than on the upperside and flecked with dark brown specks and streaks, the pre-apical ocellus on the forewing white-centred and surrounded by a broad patch of yellow, paler than the ground colour. ♀ Similar, larger; upperside of forewing generally with an additional round black spot near tornus.

Expanse.— $1\frac{3}{4}$ ".

Common.

Habitat.—Western Himalayas, Kashmir. Flies from June to September and ascends to 15,000 feet.

Notes.—The race *M. pulchra*, is very similar but larger. On the upperside of the forewing the ground colour is overlaid with brown forming a band across the wing. The underside is darker than in *pulchella* and the yellow patch round the pre-apical ocellus more distinct. Occurs in the same localities.

Genus—KARANASA.

257. **Karanasa huebneri**, ♂ ♀.—Upperside pale-brown, fringe white alternated with brown, a broad post-discal yellow band across the wings but not reaching the costa or dorsal margin of either fore or hind wings. On the forewing this band bears an upper and lower round black spot, and on both wings it is outwardly defined by a zigzag dark line. Underside forewing brownish yellow, with the spots as on the upperside, the ground colour paler round the upper spot, a subterminal dark zigzag line and the costal and terminal margins greyish-brown. Hindwing thickly covered with fine white, grey and brown scales, the last forming a broad median transverse band bordered on both sides by a dark line, beyond this a post-discal zigzag, highly curved dark line; veins pale. ♀ Similar but paler. On the upperside the whole of the forewing up to the dark terminal margin tinged with yellowish.

Expanse.—2".

Uncommon.

Habitat.—N. W. Himalayas, Kashmir.

258. **Karanasa pimpla**, ♂ ♀.—Upperside glossy dark brown with a bronze tint on the forewing, fringe white alternated with brown. Forewing with a large pre-apical round black spot, sometimes centred with white. Underside pale greyish-brown; forewing with the spot as on the upperside but on a broad pale area, cell

and discal area yellowish-brown, costa and termen thickly dusted with white, grey and brown scales, dorsal margin dark brown. Hindwing, basal area with a few short transverse dark brown irregular lines, median and subterminal zigzag lines reddish-brown.

Expanse.— $2\frac{1}{2}$ ".

Uncommon.

Habitat.—N. W. Himalayas, Kashmir. Flies in July to September at high altitudes.

259. **Karanasa digna**, ♂ ♀.—Very similar to *K. pimpla*, but the upperside of both wings crossed by a post-discal broad orange band which encircles the pre-apical round black spot. The lower spot is absent.

Expanse.— $2\frac{1}{2}$ ".

Very rare.

Habitat.—Only known from the Shandur plateau and Gilgit in Kashmir.

Genus—AULOCERA.

260. **Aulocera brahminus**, ♂ ♀.—Upperside dark brown, a post-discal band of white spots across both wings, those on the hindwing forming a complete band, only divided by the veins, a pre-apical series of generally three white spots with a blackish-brown spot between them and the upper spots of the post-discal band on the forewing. Fringe white alternated with brown. Underside darker; cell, costa and apex of forewing and the whole of the hindwing dusted with minute specks and streaks of white, the white transverse band as on the upperside.

Expanse.— $2\frac{1}{2}$ ".

Fairly common.

Habitat.—N. W. Himalayas, Kashmir, Sikkim, Bhutan.

Notes.—*Brahminus* is the smallest of the *Aulocera* and is easy to recognise by the narrow white transverse band.

The race *brahminoides* is confined to Bhutan and Kashmir, it is deeper and more richly coloured and glossed with purple at the apex of the forewing and apices of the veins on the hindwing on the underside.



FIG. 210.—AULOCERA BRAHMINUS, ♂.



FIG. 211.—AULOCERA SWAHA, ♂.

261. **Aulocera swaha**, ♂ ♀.—Similar to *A. brahminus*, but the discal band creamy-yellow, and not ex-curved on the hindwing but which, however, is always white on the underside of the hindwing. The lower basal area of the hindwing on the underside tinged with green.

Expanse.— $2\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Kashmir at high elevations.

262. **Aulocera padma**, ♂ ♀.—Also similar to *A. brahminus*, but larger, the discal band much broader not cream colour as in *A. steaha*, the black pre-apical spot not prominent. Underside forewing with a dark brown broad sub-terminal band, basal area of the hindwing very dark the greyish-white streaks very delicate and fine, these streaks tinged with purple beyond the discal band.



FIG. 212.—**AULOCERA**
PADMA, ♂.

Expanse.—3" to 3½".

Common.

Habitat.—The Himalayas, Sikkim, Bhutan.

Notes.—In the race *A. chumbica*, from the Chumbi Valley, Sikkim, the bands on the upper side are pure white but half as broad as in *A. padma*, beneath they are tinged with dark yellow.

263. **Aulocera saraswati**, ♂ ♀.—Can be easily distinguished from all other species of this family by the band of both wings being very broad and nearly even width throughout and by the shorter and broader wings. Underside washed with yellowish.

Expanse.—2½" to 3".

Fairly common.

Habitat.—Kashmir to Nepal.

Genus.—**AENEIS**.

264. **Aeneis pumilus**, ♂ ♀.—Upperside yellowish-brown, a discal transverse band of yellow spots across both wings and a pre-apical dark spot. Fringe white alternated with brown. Underside forewing paler with transverse dark streaks, discal band creamy white bordered on both sides by dark-brownish yellow lines. Hindwing discal band zigzag, bordered on both sides by a dark line. Apex of forewing and the veins of the hindwing grey.

Expanse.—1½" to 2".

Common.

Habitat.—The Himalayas, Sikkim and Tibet at high elevations.



FIG. 213.—**AENEIS PUMILUS**, ♂.

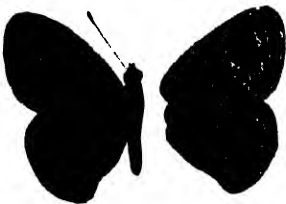


FIG. 214.—**YPTHIMA**
BALDUS, ♂.

Genus.—**YPTHIMA**.

265. **Ypthima baldus**, ♂.—Upperside brown, both fore and hind wings with the terminal margins darker. Forewing with a bi-pupilled, yellow-ringed black pre-apical ocellus. Hindwing with two smaller ocelli and sometimes one or two minute tornal ocelli also. Underside brownish-white, closely marked with slender delicate transverse brown lines. Forewing

with the ocellus as on the upperside but with the yellow circle broader, surrounded by an obscure brown ring. Hindwing with six smaller ocelli in pairs, two tornal, two median and two pre-apical and on both fore and hind wings sub-basal, discal, and subterminal brown transverse bands. ♀ has on the upperside the area surrounding the ocelli on both fore and hind wings paler. On the underside it is paler than the male and the transverse dark bands more clearly defined. The dry-season form is paler and the ocelli on the underside of the hindwing reduced to specks.

Expanse.— $1\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Sikhim, Bhutan, Assam, Cachar, Bengal, Southern India.

266. ***Ypthima philomela***, ♂ ♀.—Upperside brown terminal margins darker. Ocelli as in *Y. baldus*, but without the minute tornal ocellus on the hindwing. Underside similar to underside of *Y. baldus* but slightly darker. Smaller than *Y. baldus*.

Expanse.— $1\frac{1}{4}$ " to $1\frac{1}{2}$ ".

Common.

Habitat.—South India, Nilgiris, Wynnad.

Notes.—The race *Y. indecora*, which closely resembles the typical form is larger and with larger ocelli. It occurs in the N. W. Himalayas.

267. ***Ypthima affectata***, ♂ ♀.—Upperside brown, darker than *Y. baldus*, both wings are crossed by distinct post-discal and subterminal dark bands, the space between the bands paler, thinly marked with dark brown streaks. Forewing with a large pre-apical ocellus and on the hindwing two median and two minute tornal ocelli similar to those in *Y. baldus*, termen of hindwing defined by a pale line. Underside as in *Y. baldus*, the transverse fine lines more dense and uniform.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Common.

Habitat.—Assam, the Khasia Hills.

268. ***Ypthima methora***, ♂.—Upperside dark brown the terminal margins narrowly darker. Forewing with a large pre-apical bi-pupilled yellow-ringed black ocellus. Hindwing with three to five similar but smaller ocelli with a single blue-white spot in centre, an indistinct discal transverse band and the termen outwardly defined by a pale yellow line. Underside yellowish-brown, closely and evenly covered with dark brown fine lines. Forewing: ocellus as on upperside. Hindwing with six ocelli in pairs, in échelon, discal and terminal dark brown bands. ♀ similar but larger and paler, the upperside as well as the underside more or less covered with dark brown



FIG. 215.—*YPTHIMA METHORA*, ♂.

fine lines. In dry-season forms the underside is paler, the transverse bands more distinct and the ocelli on the hindwing much reduced in size.

Expanse.—2" to 2½".

Fairly common.

Habitat.—Sikhim, Bhutan, Hills of Assam.

269. **Ypthima sakra**, ♂ ♀.—Upperside brown, the terminal margins of the wings darker. Forewing with a large slightly oval bi-pupilled yellow-ringed black ocellus with a dark brown outer ring. Hindwing with four similar single pupilled round ocelli, the tornal and pre-apical ocelli sometimes absent or faintly marked. Underside yellowish-brown thickly covered with transverse short fine dark-brown lines. Forewing ocellus as on upperside but larger. Hindwing with five prominent similar ocelli, the pre-apical two encircled in a common yellow ring, the posterior three in a straight line, the tornal ocellus bi-pupilled.



FIG. 216.—YPTHIMA SAKRA, ♂.

Expanse.—2" to 2½".

Common.

Habitat.—The Himalayas, Sikhim, Assam, the Khasia

and Naga Hills.

270. **Ypthima newara**, ♂ ♀.—Upperside pale-brown. Forewing with the usual sub-apical ocellus. Hindwing with a sub-tornal and sometimes a minute tornal ocellus. Underside paler thickly covered with the usual fine brown streaks. Ocelli as on upperside but the tornal ocellus bi-pupilled and always present, in addition a larger pre-apical ocellus on the hindwing, both wings with a dark subterminal band on the underside.

Expanse.—1¾" to 2".

Habitat.—Sikhim, Assam.



FIG. 217.—YPTHIMA NEWARA, ♂.

271. **Ypthima nareda**, ♂ ♀.—Very closely resembles *Y. newara*, but is smaller. Both fore and hindwings with dark sub-terminal bands, that on the forewing broadening posteriorly.

Expanse.—1½" to 1¾".

Habitat.—N. W. Himalayas, Kashmir.

272. **Ypthima lycus**, ♂ ♀.—Wings somewhat narrower. Upperside perceptibly darker on the basal area in the ♂. The same arrangement of eye-spots as in *Y. nareda* except that the tornal ocelli on the underside of the hindwing are smaller. Underside dark-grey with unusually fine lines.

Expanse.—1½".

Not rare.

Habitat.—The Khasia Hills, Assam. Flies from March to July.

273. **Ypthima avanta**, ♂ ♀.—Upperside brown with faint darker subterminal narrow bands. Forewing with a bi-pupilled, yellow-ringed, black pre-apical

ocellus, present in the ♀, faint or entirely wanting in the ♂. Hindwing with two ocelli in the ♂, generally four in the ♀. Underside brownish-white, closely covered with dark brown transverse delicate lines, discal and subterminal dark bands crossing both wings; in the ♀ an additional sub-basal band. On the hindwing six ocelli in a curve, the anterior two slightly in échelon with the rest. In dry-season specimens the ocelli on hindwing reduced in size.

Expanse.— $1\frac{1}{4}$ " to $1\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Kashmir, Kulu, Bengal, Orissa.

Note.—The race *Y. striata* which occurs in the Nilgiris only, has the ocellus on the upperside of the forewing always present in both sexes; on the underside the ground colour is whiter.

274. **Ypthima chenui**, ♂ ♀.—Upperside brown with a very large apical eye-spot on the forewing, bi-pupilled with blue and broadly margined with bright yellow. Hindwing with two small uni-pupilled black ocelli, no tornal ocellus. Underside greyish-brown covered with short brown streaks and prominent dark brown transverse bands. Forewing with the pre-apical ocellus as on upperside, hindwing with an apical and three posterior ocelli.

Expanse.— $1\frac{3}{4}$ ".

Very local.

Habitat.—The Nilgiri and Anaimalai Hills in Southern India. Common on rocky hills at elevations of between 5,000 and 7,000 feet, to be found nearly all the year round, there being four generations.



FIG. 218.—*YPT-
HIMA CHENUI*, ♂.
Underside.

275. **Ypthima ypthimoides**, ♂ ♀.—Resembles *Y. chenui*, but the upperside is darker. The ♀ is lighter than the ♂ and shows clearer yellow bordering to the eye-spots of the forewing. The underside of the hindwing is crossed by a narrow grey-white band.

Expanse.— $1\frac{3}{4}$ ".

Very local.

Habitat.—Travancore and Cochin Hills in South India.

276. **Ypthima huebneri**, ♂ ♀.—Upperside pale-brown. Forewing with the usual pre-apical ocellus. Hindwing with two, sometimes three and rarely without any ocelli. Underside greyish, not very densely covered with transverse brown streaks. Forewing with the pre-apical ocellus as on upperside, hindwing with one apical and three contiguous posterior ocelli. Both wings crossed by dark bands, faint on the hindwing. In the dry-season form both the upper and undersides are paler, the dark bands across the wings more pronounced and the ocelli on the underside of the hindwing minute or absent.



FIG. 219.—*YPT-
HIMA HUEBNERI*, ♂.
Underside.

Expanse.— $1\frac{1}{2}$ ".

Common.

Habitat.—Peninsular India and Assam. The race *Kashmira* occurs in the N. W. Himalayas and Kashmir.

277. **Ypthima ceylonica**, ♂ ♀.—Is the only species with the hindwing almost entirely white. Similar to *Y. huebneri* as regards placing of the eye-spots. The illustration shows both upper and undersides.

Expanse.— $1\frac{1}{4}$ " to $1\frac{1}{2}$ ".

Common.

Habitat.—Formerly only known from Ceylon which name it bears, it has been discovered in Southern India and in Orissa not so very long ago.

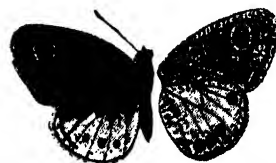


FIG. 220.—*YPTHIMA*
CEYLONICA.

278. **Ypthima inica**, ♂ ♀.—Upperside dark brown. Forewing with the usual large pre-apical ocellus, bi-pupilled and yellow-ringed. Hindwing with one similar but smaller uni-pupilled sub-tornal ocellus. Underside pale-grey densely covered with short transverse streaks. Forewing with the eye-spot as on upper-side. Hindwing with an apical and two posterior similar but smaller ocelli. In the dry-season form the wings on underside are crossed by yellowish bands, the ocelli reduced to mere specks or obsolete.

Expanse.— $1\frac{1}{2}$ ".

Common.

Habitat.—Upper Bengal, Punjab and Central India.

279. **Ypthima asterope**, ♂ ♀.—Similar to *Y. inica*, upperside dull-brown, fringe whitish. Underside greyish-white covered with very delicate minute transverse streaks. Forewing with a discal and subterminal dark brown band meeting below the ocellus and forming a loop. Hindwing more uniform with a pre-apical, a sub-tornal and a tornal small ocellus. In the dry-season form the ocelli of the underside of the hindwing in some specimens are entirely absent.

Expanse.— $1\frac{1}{4}$ " to $1\frac{1}{2}$ ".

Widely distributed.*

Habitat.—N. W. Himalayas, Punjab, Western and Central India.

Genus—*CALLEREBIA*.

280. **Callerebia kalinda**, ♂ ♀.—Upperside reddish-brown. Forewing with a white-centred black pre-apical yellow-ringed large ocellus below which and up to apex of cell dark-red. Hindwing without an ocellus, a patch of dark-red in the middle of subterminal area. Fringe of both wings alternate white and brown. Underside: Forewing yellow-red, the eye-spot as on upperside, the costa, apex, termen and dorsal margin brown dusted with grey scales. Hindwing blackish-brown thickly dusted with grey scales, a post-discal series of seven white spots. Antennæ ringed with white.



FIG. 221.—*CALLEREBIA*
KALINDA, ♂

Expanse.—2".

Not rare.

Habitat.—Western Himalayas at elevations of from 9,000 to 16,000 feet.

281. **Callerebia mani**, ♂ ♀.—Upperside brown, fringe alternate white and brown. Forewing with a large yellow patch on the outer portion of the wing,

enclosing a black pre-apical ocellus with white centre and pale-yellow ring. Hindwing uniform. Underside: forewing as on upperside, the ocellus with a broader pale-yellow ring, the costa, apex and termen dusted with greyish scales. Hindwing as in *C. kalinda*, but ground colour paler.

Expanse.—2".

Habitat.—Kashmir, up to 13,000 feet.

282. ***Callerebia shallada***, ♂ ♀.—Somewhat larger than *C. kalinda*, but closely resembling it. The dark-red patches on the upperside of both wings smaller and deeper coloured and sharply separated from the eye-spot of the forewing, the yellow ring of the ocellus less distinct.

Expanse.—2¼".

Fairly common.

Habitat.—Western Himalayas.

283. ***Callerebia hyagriva***, ♂ ♀.—Upperside dark brown. Forewing with a subterminal dark band and a pre-apical bi-pupilled, black, yellow-ringed ocellus, hindwing with a single uni-pupilled similar but smaller tornal ocellus. Underside yellowish-brown, the dark sub-terminal bands on both wings as on upperside but more clearly defined and with a fine terminal dark line. Forewing with the costa and terminal margin mottled with brown. The hindwing covered with short dark transverse lines, a post-discal series of four large, black, white-pupilled, yellow-ringed ocelli, two sub-apical and two sub-tornal.

Expanse.—2" to 2¼".

Local; Common.

Habitat.—Locally very common at Mussourie, Aug-Sept. also in Kashmir.

284. ***Callerebia scanda***, ♂ ♀.—Upperside dark-brown, paler towards apex and termen. Forewing with a bi-pupilled, oval, dark brown pre-apical, pale-ringed ocellus. Underside uniform brown. Forewing: beyond the ocellus a faint sub-terminal transverse darker-brown band. Hindwing predominantly grey; two small sub-tornal, pale-ringed, white-pupilled black ocelli and above them in the interspaces four minute white dots. Very similar to *C. nirmala*.

Expanse.—2".

Common.

Habitat.—Western Himalayas and Kashmir.



FIG. 222. *CALLEREBIA NIRMALA*, ♂.

Underside.

285. ***Callerebia nirmala***, ♂ ♀.—Resembles *C. scanda*, but in some specimens, on the upperside of the hindwing, besides the sub-tornal ocellus there will be found one or more similar post-discal ocelli. On the underside of the forewing the central area is deep yellowish-red, on the hindwing the ocelli as on upperside but up to six in number, and faint post-discal and subterminal dark bands. Very variable as regards the number of ocelli on the hindwing.

Expanse.—2".

Common.

Habitat.—Western Himalayas, Chitral to Kumaon.

286. **Callerebia annada**, ♂ ♀.—Upperside dark brown, the ocellus as in *C. scanda*, but ringed with orange. Underside forewing a deep red-brown, apex and terminal margin just below it dusted with grey scales, the ocellus and subterminal band as on upperside, the latter joining a post-discal dark band below the ocellus. Hindwing dark brown, thickly dusted with grey scales and fine brown transverse lines; two sub-tornal pale-ringed blind ocelli, and post-discal and sub-terminal brown transverse bands.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—The Himalayas, Kashmir, Bhutan.

287. **Callerebia orixa**, ♂ ♀.—Very similar to *C. annada*, but the orange ring round the ocelli on both upper and underside of the forewing very much broader. The subterminal band on the upperside and the post-discal and sub-terminal bands on the underside of the forewing are generally wanting.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—Assam, Manipur.



FIG. 223.—*CALLEREBIA SUROIA*, ♂.

288. **Callerebia suroia**, ♂ ♀.—Very similar to *C. orixa*, but with a much broader orange ring round the ocellus on both the upper and underside of the forewing. On the underside of the hindwing there are two very conspicuous sub-basal and medial reddish-brown bands which are almost obsolete in *C. orixa*, and the tornal ocellus, present in *C. orixa*, is entirely wanting.

Expanse.—2" to $2\frac{1}{2}$ ".

Habitat.—Manipur, Naga Hills.

289. **Callerebia daksha**, ♂ ♀.—Similar to *C. nirmala*, but smaller. Upperside: dark reddish-brown. Forewing with a bi-pupilled black pre-apical ocellus, hindwing with a uni-pupilled sub-tornal similar ocellus. Underside the ocelli encircled with reddish rings; on the forewing there is sometimes an additional small ocellus below the pre-apical ocellus. Hindwing with a subterminal series of white spots above the sub-tornal ocellus.

Expanse.—2".

Rare.

Habitat.—Kashmir. Rare and local, flying at 7,000—9,000 feet. June to August.

Genus—*ERITES*.

290. *Erites falcipennis*, ♂ ♀.—Upperside reddish-brown, the markings of the underside showing through by transparency, a row of five ocelli on the upper-side of the hindwing arranged as follows: A minute costal eye-spot and then four contiguous black, yellow-ringed ocelli of equal size. The tornal ocellus on the underside of the forewing very large and prominent showing through strongly on the upperside. This ocellus very much larger in the ♀. There are, on the apical area always three small ocelli. Both wings crossed by two prominent discal broad bands, the outer of the two angled outwards beyond apex of cell on the hindwing; marginal fine lines well developed. The ♀ differs from the ♂ in the shape of the wings, lighter ground colour, larger expanse, broader wings and larger ocelli.



FIG. 224.—a *ERITES FALCIPENNIS*, ♀.
Underside.

b. OUTLINE OF WINGS OF ♂.

Expanse.— $1\frac{3}{4}$ " to 2".

Very rare.

Habitat.—Cachar at the foot of the Booban Hills in the Lakhimpur district, also North Cachar Hills. Flies July-August.

Genus—*RAGADIA*.

291. *Ragadia crisilda*, ♂ ♀.—Upperside dusky black, both fore and hindwings crossed by a white discal band, hindwing in addition with a curved narrow post-discal white band. On basal half of wings the white bands of the underside showing through. Underside both fore and hind wings crossed by five white bands, between the discal and post-discal bands on both wings there is a series of silvery-blue-centred, yellow-ringed, black ocelli, eight on fore and seven on hind wings. Three of the middle ocelli on the hindwing encircled by the same yellow ring.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Not common.

Habitat.—Assam, the Khasia Hills, Cachar and Sylhet.



FIG. 225.—*RAGADIA CRISILDA*, ♂.
Upperside.



RAGADIA CRITO, ♂.
Underside.

292. *Ragadia crito*, ♂ ♀.—Similar to *R. crisilda*, but the upperside of both fore and hind wings crossed by four white bands, the discal band the broadest, the ocelli of the underside showing through. Underside crossed by similar transverse bands, the ocelli as in *R. crisilda*.

Expanse.— $1\frac{3}{4}$ " to 2". Not common

Habitat.—Bhutan and Upper Assam.

Genus—*MELANITIS*.293. *Melanitis ismene*,FIG. 226.—*MELANITIS*
ISMENE, ♂.

♂ ♀.—Perhaps the commonest and most dull looking of all Indian butterflies. It occurs everywhere in South and East Asia. No two specimens are exactly alike. Upperside brown. Forewing with two large sub-apical black spots each with a white spot outwardly and bordered inwardly by a yellowish lunule. Hindwing with a white-centred, yellow-ringed dark ocellus in interspace 2, and other ocelli or minute dots in one or more of the remaining interspaces. Underside paler, densely covered with transverse dark brown fine lines, discal and post-discal dark bands, followed by series of ocelli; four on the forewing and six on the hindwing. In dry-season forms the ocellus in interspace 2, of the upper-side of the hindwing, absent or replaced by three or four minute white subterminal spots, the yellowish

lunules inwardly bordering the black spots of the forewing larger and more extended. Underside very variable as also the terminal margins of both wings in the two seasonal forms.

Expanse.— $2\frac{3}{4}$ " to 3".

Exceedingly common.

Habitat.—Throughout India.

Notes.—A peculiarity of this butterfly is that it flies and feeds in the early morning and late evening when other butterflies are at rest.

294. *Melanitis bela*, ♂ ♀.—Upperside resembles *M. ismene*, but the costa of forewing is more strongly arched and the black sub-apical spots are smaller, very obscure and not inwardly bordered by yellowish markings, the smaller white spot absent. Hindwing uniform, in a few specimens there is a mere trace of an ocellus in interspace 2. Underside as in *M. ismene*. In the dry-season form, paler towards the terminal margins, the apical yellowish markings extending to the costa forming an oblique broad stripe. Underside as in *M. ismene*.

Expanse.—3" to $3\frac{1}{4}$ ".

Common.

Habitat.—The Himalayas, Kashmir to Sikkim, Assam, the Naga and Khasia Hills. The race *M. varaha*, occurs in Southern India and *M. bethami* in Central India. The latter having the yellow patch of the forewing very wide.

FIG. 227.—*MELANITIS*
ZITENIUS, ♂.

295. *Melanitis zitenius*, ♂ ♀.—Also similar to *M. ismene*, but darker brown and a very broad patch of yellow above and beyond the sub-apical black spots of the forewing. This patch larger in the

♀ than in the ♂. Underside as in *M. ismene*, the ocelli very much smaller and less clearly defined. In dry-season forms the pre-apical yellow patch of the forewing is broader, forming a band from costa to and beyond the sub-apical black spots, spreading below and almost encircling them. Hindwing with two or three white subterminal spots. Underside as in *M. ismene*, the ocelli often obsolete.

Expanse.— $3\frac{1}{4}$ ".

Common.

Habitat.—Sikhim, Assam, South India.

Genus—CYLLOGENES

296. **Cyllogenes Janetæ**, ♂ ♀.—

Upperside brown with a purplish gloss. Termen of forewing in both sexes angulated below apex. A pre-apical broad yellow band reaching the termen and tornal angle. Hindwing terminal border obscurely yellow. Underside dull-yellowish shaded with dark brown. Forewing with a sub-basal and a discal dark band, the hindwing with a discal dark band. In the ♀ the yellow band of the forewing much broader.

Expanse.— $3\frac{1}{2}$ ".

Rare.

Habitat.—Bhutan, the Naga Hills.



FIG. 228.—CYLLOGENES JANETÆ, ♀.



FIG. 229.—CYLLOGENES SURADEVA, ♂.

297. **Cyllogenes suradeva**, ♂ ♀.—Similar to *C. janetæ*, in colour but the outline of the forewing in both sexes straight, not angulated below apex. Upperside, forewing the yellow band narrower, from costa to a little below vein 3, but not reaching the termen. Hindwing uniform. Underside dull yellowish-white, covered with fine short transverse brown lines, both wings with a dark transverse discal band and an obscure post-discal series of small white spots. In the ♂ the discal band narrower than in the ♀ and bordered outwardly by a diffuse purplish band.

Expanse.— $3\frac{1}{4}$ ".

Rare.

Habitat.—Sikhim.

Genus—PARANTIRRHŒA.

298. **Parantirrhœa marshalli**, ♂.—Male with a moderately broad, bright violet band on the upperside of the forewing. Hindwing with an elongate oval black sub-tornal band. Underside yellowish with very fine brown transverse lines and a blackish sub-tornal mark between the median veins. ♀. Unknown.

Expanse.—A little over 2".

Habitat.—The Ashambo Hills near Trevandrum in Travancore, S. India.

Notes.—Verging on extinction. Flies in May. Probably only single brooded.



FIG. 230.—ANADEBIS
HIMACHALA, ♂.

Genus.—ANADEBIS.

299. **Anadebis himachala**, ♂ ♀.—Upper-side dark-brown, paler in the ♀, termen broadly paler. On the forewing a row of 6 or 7 white-pupilled black ocelli each with a yellowish ring and an outer ring of brown. Hindwing with 5 similar ocelli. Both wings with two sub-terminal dark lines. Underside similar, the apical ocellus on the hindwing very large. Ground-colour either side of the internal subterminal dark line pinkish.

Expanse.—3" to 3½".

Common.

Habitat.—Sikhim, Assam, Sylhet, Cachar.

Genus.—NEORINA.

300. **Neorina westwoodi**, ♂ ♀.—Upperside dark brown. Forewing with a broad whitish band from about the middle of the costa to the tornus, a large pre-apical black ocellus with a small white spot about the centre, two white spots above and one below it, two subterminal dark lines, the apical area paler. Hindwing: the terminal and costal margins near the apex whitish, a dark prominent subterminal band parallel with the termen, the termen at apex of vein 4 produced forming a tail. Underside with the oblique band, ocellus and white spots as on upperside, the ocellus yellow-ringed and with an outer black ring: the post-discal area broadly purple followed by two subterminal waved lines, the inner of the two purple. Hindwing: apex with a yellowish-white patch, two large white-centred bluish-black ocelli in interspaces 2 and 6, that in interspace 6 the larger, both yellow-ringed and with an outer black ring, in interspaces 3, 4 and 5 are three blue-centred small ocelli. The post-discal



FIG. 231.—NEORINA WESTWOODI, ♂

and dorsal area overlaid with purple and two subterminal highly waved lines, the inner one purple as on the forewing.

Expanse.— $4\frac{3}{4}$ " to 5".

Rare.

Habitat.—Assam, the Khasia Hills, Cachar.

301. **Neorina hilda**, ♂ ♀.—Upperside: very dark brown. Resembles *N. westwoodi*, but differs as follows:—Forewing with the discal band narrower and yellow. Hindwing with the terminal and costal margins yellow, the termen at apex of vein 4 not produced. Underside similar with a powdering of yellow scales towards the dorsal margin of the hindwing. Forewing with the yellow band, black ocellus and white spots as on upperside, yellow and black-ringed as in *N. westwoodi*. Hindwing with yellow markings as on upperside, a pre-apical ocellus and very much smaller somewhat obscure ocelli in interspaces 2, 3 and 4. Both wings with two subterminal waved dark lines, bordered by purple on the inner side and at the tornus of the hindwing.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ". Uncommon.

Habitat.—Sikhim, Bhutan, Assam.



FIG. 232.—NEORINA HILDA, ♂.

Genus—ELYMNIAS.

302. **Elymnias undularis**, ♂.—Upperside blackish-brown. Forewing with a subterminal series of blue elongate spots increasing in length towards apex. Hindwing: the terminal area bright chestnut with sometimes paler spots in the



FIG. 233.—ELYMNIAS
UNDULARIS ♂.



FIG. 234.—ELYMNIAS
UNDULARIS, ♀.

interspaces. Underside brown, the basal two-thirds of both wings covered with dark transverse lines. Forewing with a purplish-white pre-apical triangular mark,

both wings with the subterminal area purplish-white. Hindwing with a white spot near middle of costa and a series of whitish subterminal spots. ♀. Upperside reddish-yellow; Forewing: the apical area and costa black, a pre-apical broad white band and three subterminal white spots below it. Hindwing: terminal border dusky black with a subterminal series of white spots. Underside: markings similar to those in the ♂, the pale markings more extensive.

Expanse.— $2\frac{3}{4}$ " to 3".

Very common.

Habitat.—Throughout India except in the South.

303. **Elymnias caudata**, ♂ ♀.—Resembles *E. undularis* but with longer wings and the tail at apex of vein 4 on the hindwing longer. Upperside: In the ♂ the subterminal and pre-apical spots on the forewing white dusted with dark



FIG. 235.—ELYMNIAS CAUDATA, ♂.



FIG. 235a.—ELYMNIAS CAUDATA, ♀.

scales, the terminal half of the hindwing yellowish-red, terminal border darker. ♀ similar to the ♀ of *E. undularis*, veins 2, 3 and 4 on the hindwing broadly bordered with black.

Expanse.—3".

Common.

Habitat.—Throughout Southern India in bamboo forests.

304. **Elymnias peali**, ♂ —Upperside very deep purple, apical and terminal areas of both wings pale blue, the costa of forewing with transverse flecks of the same colour. Underside dark reddish-brown, the terminal half of both wings with bluish-grey transverse smudges, costa of forewing with flecks of the same colour, the hindwing with a prominent white subcostal spot and a tornal reddish spot. ♀. Upperside pale purplish-brown, the cell area of forewing and posterior



FIG. 236.—ELYMNIAS PEALI, ♂.

half of hindwing much darker, the tornal red spot quadrate and larger than in the ♂. Underside similar to that of the ♂ but much paler, the bluish-white markings covering a greater portion of the wings.

Expanse.—3".

Rare.

Habitat.—Sibsagar in Assam, the Naga Hills, Manipur and Cachar.

305. **Elymnias malelas**, ♂.—Upperside dark brown, forewing overspread with iridescent purple, a spot beyond apex of cell, some discal spots and a series of post-discal spots light purplish-blue. Hindwing very dark brown, sometimes with a post-discal series of obscure bluish-white spots. Underside dark chestnut-brown, both wings covered with fine white transverse lines towards the terminal half. ♀. Similar, but the iridescent purple confined to the apical half of the forewing, the spots almost white. In addition the forewing has a dull white streak along the dorsum and a broader streak in interspace 1. Hindwing with similar white streaks in the interspaces, crossed pre-apically by round black spots, terminal margin dark brown. Underside paler than in the ♂, more closely covered with the white transverse fine lines.

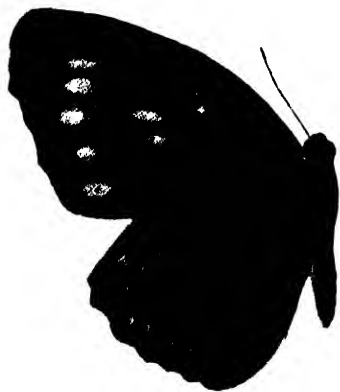


FIG. 237.—ELYMNIA
MALELAS, ♂.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Sikhim, Nepal, Bhutan, Assam and Cachar. The caterpillar feeds on the leaves of the banana.



FIG. 238.—ELYMNIA
TIMANDRA, ♀.

306. **Elymnias timandra**, ♂.—Upperside black. Forewing with long streaks in the interspaces, the posterior half of cell, a few transverse streaks on basal half of costa and four or five spots on the apical area bluish-green. Hindwing with similar streaks and in the posterior interspaces white subterminal spots. Underside with broad dark brown area on both wings, extending from the base to the middle of the wing, the anal portion whitish with scattered brown scales. ♀ underside entirely white with diffuse brown or yellowish shading.

Expanse.—3" to $3\frac{1}{4}$ ".

Fairly common.

Habitat.—Sikhim, Assam, Cachar, Sylhet.

307. **Elymnias patna**,FIG. 239.—ELYMNIAS
PATNA, ♂.

streaks in cell and interspaces, costa flecked with transverse spots. Hindwing white, the costal margin, apex and the terminal margin black; the cell with a bluish-grey streak in its lower half and vein 4 broadly lined on both sides with black. Underside transversely mottled with black and white. Hindwing with a conspicuous red spot at base of interspaces 1a, and 1, those interspaces as also interspace 2 uniform chrome yellow not extend-

FIG. 241.—ELYMNIAS
PENANGA, ♂.

♂.—Upperside dark brown. Forewing with three discal streaks increasing in length towards the costa and an oblique pre-apical band bright blue. Hindwing reddish-brown with a post-discal series of small white spots and apex shot with blue. Underside brown. Forewing with three or four, hindwing with seven bluish-white post-discal spots; the posterior portion of the terminal margin of the hindwing with short, transverse pinkish-white streaks and minute spots. ♀ Similar but larger and sometimes with an obscure blue streak beyond apex of cell on the upperside of forewing.

Expanse.—3¼" to 4".

Not rare.

Habitat.—The Himalayas, Sikkim, Assam.

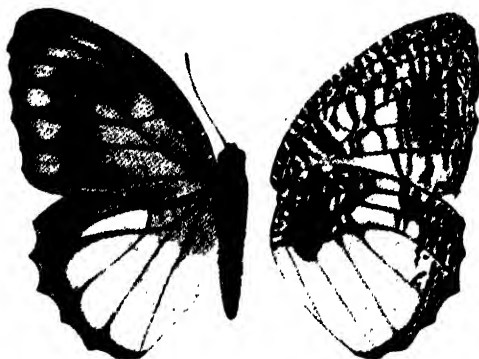
308. **Elymnias vasudeva**, ♂ ♀.—Upper-
side black. Forewing with bluish-grey

FIG. 240.—ELYMNIAS VASUDEVA, ♂.

ing to the terminal margin,

the bases of interspaces 3 to 6 are crossed by elongate white spots, apex and termen mottled as on the forewing.

Expanse.—2½" to 2¾".

Not common.

Habitat.—Sikkim, Assam.

309. **Elymnias penanga**, ♂.—Upperside dark brown. Forewing glossed with purple and with post-discal broad streaks of silvery purple in the interspaces. Hindwing uniform. The terminal border of both wings rufous. Underside reddish-brown dusted with whitish streaks and minute spots. Forewing with the costa pre-apically very densely marked with white specks. Hind-

wing with a white subcostal spot and a post-discal series of minute white spots in the interspaces. ♀ Upperside dark blue. Forewing with a white post-discal band not quite reaching the termen. Underside similar to that in the ♂ ♀ very finely dusted with whitish streaks giving the apical half of the forewing a whitish appearance.

Expanse.—3".

Rare.

Habitat.—The Khasia Hills, Assam, Cachar.

Genus—CLEROME.

310. **Clerome arcesilaus**, ♂ ♀.—Upperside yellowish-brown. In the the terminal border of both wings and apex of forewing darker. Underside darker yellowish-brown both wings crossed by a subbasal and a discal dark band, the latter curved, followed by a post-discal line of small yellow spots, six on the forewing and seven on the hindwing; lastly, a subterminal dark line, ♀ larger.

Expanse.—2½" to 3". Not common.

Habitat.—Assam, the Khasia Hills.



FIG. 242.—CLEROME
ARCESILAUS. ♀.
Underside.

311. **Clerome assama**, ♂ ♀.—Resembling *C. arcesilaus*, but considerably larger. Upperside of ♂ uniform yellowish-brown, that of the ♀ more yellow with a pre-apical bright yellow oblique band on the forewing. Underside maroon brown, apex of forewing paler, dorsal margin dull brown, subbasal, discal and post-discal dark lines crossing both wings; between the discal and post-discal lines a series of round white spots, 5 to 6 on the forewing and 6 to 7 on the hindwing.

Expanse.—3½" to 4".

Uncommon.

Habitat.—The hill ranges of Assam.

Genus—AMATHUSIA.

312. **Amathusia amythaon**, ♂.—Upperside dark brown, paler towards apex, fringe white. Forewing with a broad pale blue discal band from costa to near apex of vein 1. Hindwing uniform dark brown, shot with dark blue, the tornus produced forming a broad tail and bearing two small elongate black spots with outer white border. Underside pale brown with a pinkish tinge, both fore and hind wings crossed by widely separated dark brown lines. Hindwing with a large post-discal ocellus in interspace 2 and another in interspace 6, both white-centered and having a very fine black line encircling them, the tornal lobe dark brown with the black white-edged spots as on upperside. ♀ Upperside paler brown. Forewing with a broad band as in the ♂ but bright yellow, a spot below it in the middle. Hindwing uniform, apex yellow. Underside as in the ♂ but the ground colour paler.

Expanse.—5" to 5½".

Rare.

Habitat.—The hills of Assam; Cachar, Manipur and Lushai Hills at low elevations.



FIG. 243.—*AMATHUSIA AMYTHAON*, ♂.

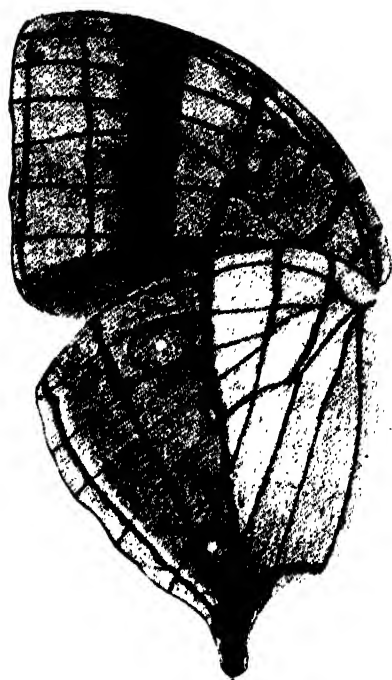


FIG. 244.—*AMATHUSIA AMYTHAON*, ♂.
Underside.

Genus—*THAUMANTIS*.

313. ***Thaumantis diores***, ♂ ♀.—Upperside dark brown, both wings with a large beautifully iridescent blue patch, outwardly suffused with brilliant silvery blue. Underside rich brown. Forewing with two pairs of transverse dark narrow bands across the cell and an oblique discal similar band from costa to interspace 1. Hindwing with two similar transverse bands, an oval yellowish-white spot in interspaces 2 and 6, and a dark tornal spot, the spot in interspace 2 shaded with brown. The terminal margins of both wings paler than the ground colour, sprinkled with lilac scales; a well defined inner pale yellowish-brown line.

Expanse.—4".

Not common.

Habitat.—Sikhim, Assam, the Khasia Hills, Cachar.

Genus—*STICHOPHTHALMA*.

314. ***Stichophthalma camadeva***, ♂ ♀.—Upperside forewing basal area dark brown, the remainder of the wing bluish-white, a series of two or three large post-discal blackish-brown spots followed by a series of star-like spots and an outer series of broad lunules of the same colour; finally a subterminal row of bluish-white crescentic marks and a terminal dark brown line. Hindwing



FIG. 245.—THAUMANTIS DIORES.

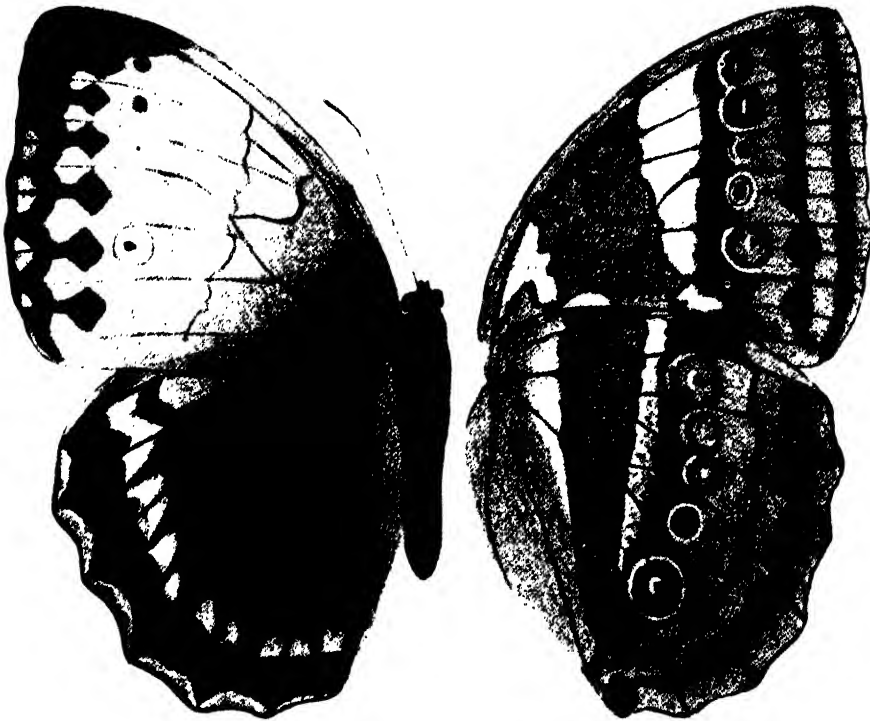


FIG. 246.—STICHOPITHALMA CAMADEVA.

chocolate-brown, basal area paler, apical half of costa and a post-discal series of wedge-shaped markings bluish-white, followed by a broad dark band and a subterminal narrow blue border and a terminal brown line. Underside in various shades of brown and with a greenish tinge. Both fore and hind wings crossed by subbasal and discal transverse dark brown lines followed by a white band, broad on the forewing and dusted with greenish scales on the hindwing, beyond this band is a dark band outwardly bordered by a series of large black-ringed, white-centred red ocelli, one or more of which may be obscure, a broad pale area beyond the series of ocelli followed by a dark brown band ending in a black spot at the tornus of hindwing. ♀ is larger, paler and greener on the underside.

Expanse.— $5\frac{3}{4}$ " to $6\frac{1}{4}$ ".

Not rare.

Habitat.—Sikhim, the Tista Valley, the hills of Assam, Cachar and Manipur. Flies in May-June.

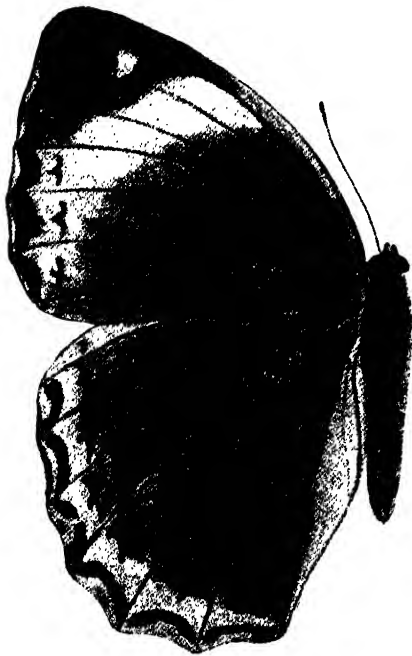


FIG. 247.—*STICHOPHTHALMA*
NOURMAHAL, ♀.

315. *Stichophthalma nourmahal*,

♂.—Ground colour deep ochre yellow with red brown basal area on both wings. Forewing with a broad, oblique pre-apical band, apex and termen narrowly dark brown, a subterminal series of brown trident shaded marks. Hindwing with a yellow band along the terminal margin, bearing paired lunular brown marks in the interspaces. Underside reddish ochre-yellow, paler towards apex of forewing, subbasal and median dark brown lines bordered by narrow bands of greenish-blue; a discal series of ocelli, two on the forewing and three on the hindwing between which there are sometimes additional obscure ocelli, a post-discal and a subterminal dark line, and a black tornal spot outwardly margined with pink. ♀ Similar, larger; a pre-apical white spot on the upperside of forewing. Underside the transverse markings similar, the ground colour up to the median black line chocolate-brown.

Expanse.—4" to $4\frac{1}{4}$ ".

Habitat.—Sikhim, where it is rare and the Naga Hills where it is not rare but very local. July to September.

Notes.—The race *S. nurinissa*, which is fairly plentiful at Buxa in Bhutan is very similar to *S. nourmahal*, but with more distinct crescentic subterminal markings.

316. **Stichophthalma howqua**, ♂ ♀.—Upperside light reddish-brown with the outer half of the forewing very much paler and terminal border of the hindwing very narrowly paler. Forewing apex black and on the terminal area a series of large black arrowhead markings. Hindwing with a series of six similar arrowheads but larger. Underside ground colour paler, the markings, particularly in the ♀, as in *S. camadeva* but more obscure, of a biscuit colour and without the dusting of bluish-green scales. ♀ considerably larger than the ♂.

Expanse.—5" to 6" Rare.

Habitat.—Manipur and the Naga Hills. May to July.

Notes.—The race *S. sparta* is in general colouring ochre yellow rather than red brown and the terminal half of the forewing on the upperside is so much paler as to be almost white. Fresh specimens of both ♂ and ♀ were sent to me from Mokokchung in the Naga Hills in September 1920 and it may be that this species is two brooded.

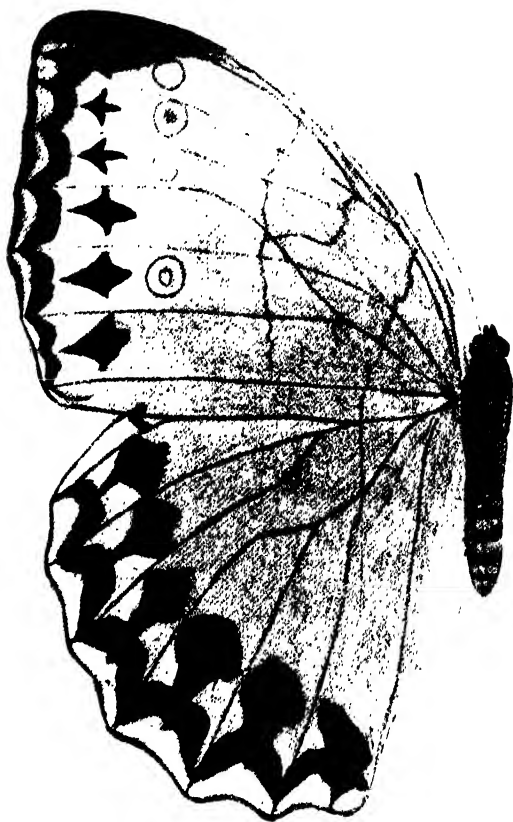


FIG. 248.—*STICHOPTHALMA HOWQUA*, ♀.
Race sparta.

Genus—*ÆMONA*.

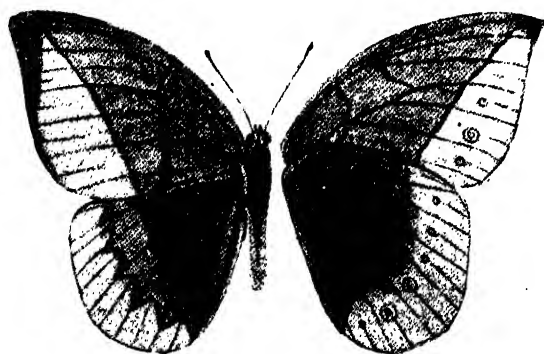


FIG. 249.—*ÆMONA AMATHUSIA*, ♂.

317. **Aemona amathusia**, ♂ ♀.—Upperside yellow. Forewing with the base, apex and terminal margin dusky brown and the whole of the hindwing dusky brown. Both wings crossed by a transverse narrow dark line from apex of forewing to tornus of hindwing and a zigzag subterminal band on the hindwing showing through from the underside. In addition to the above transverse lines the underside has

a post-discal series of ocelli some of them obscure and incomplete, the forewing with two or three and the hindwing with six ocelli, the sub-tornal ocellus on both wings being the largest. ♀ rather more dusky brown, the markings clearer and all the ocelli with white centres.

Expanse.—3".

Not rare.

Habitat.—Sikhim, Bhutan, Assam, the Manipur and Naga Hills.

Genus.—*ENISPE*.

318. ***Enispe euthymius*,**



FIG. 250.—*ENISPE EUTHYMIUS*, ♂.

♂ ♀.—Upperside ground colour reddish-orange. Forewing: a spot at upper portion of apex of cell, two curved spots beyond, four discal spots, a sub-terminal zigzag band, the apex and terminal margin black. Hindwing a discal irregular mark and two series of zigzag bands beyond black, terminal margin dusky. Underside ochre yellow, a transverse band across both wings from costa of forewing to tornus of hindwing a darker yellow defined on both sides by a reddish line, some spots of the same colour at base of wings and on the hindwing a discal series of three or four minute dark ocelli, the lowest white-centred, the black markings of the upperside showing faintly through.

Expanse.—3" to 3½".

Uncommon.

Habitat.—Sikhim, Assam, Cachar, Manipur and Naga Hills.

319. ***Enispe cynus*,** ♂.—Upperside dark brown. Forewing with a bluish-white band beyond the cell from costa to vein 4 and continued by three large spots between the veins, beyond these a series of four triangular spots of the same colour. Hindwing a subterminal curved series of small light brown spots followed by a terminal series of light brown lunular markings. Underside dark yellow, paling towards the terminal margins, a darker yellow discal band across both wings defined on both sides by dark reddish-brown lines, the basal area bearing spots and transverse streaks of the same colour, the terminal halves of the wings with three rows of obscure dark markings in the interspaces. Hindwing with a small silvery ocellus in interspace 1 and a small black spot in interspace 5. ♀ Upperside five inner discal yellowish spots and the discal band



FIG. 251.—*ENISPE CYNUS*, ♂.

terminating in a yellowish spot in the forewing. On the hindwing a transverse line followed by a post-discal row of large spear-shaped spots, a subterminal series of quadrate spots and a terminal series of lunular marks bright yellow. Underside paler yellow than in the ♂

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ".

Uncommon.

Habitat.—Bhutan, Assam, Cachar.

Genus.—DISCOPHORA.

320. **Discophora celinde**, ♂.—Upperside dark brown with a purple gloss, a greater portion of both wings overspread with dark blue. Forewing with two pre-apical yellowish-white spots and a series of four or five subterminal similar spots. Hindwing uniform. Underside yellowish shaded with brown, a broad dark brown discal band across both wings from costa of fore to tornus of hindwing; beyond, a lighter yellowish band followed on the hindwing by dull ocelli in interspaces 2 and 6 and a purplish-white mark at the tornus. ♀ paler purplish-brown, the terminal margins of the wings yellow; a broad yellow oblique pre-apical bar on the forewing, ending in two or three triangular spots, two discal spots and an outer series of three to four subterminal lunular spots. Hindwing with some obscure yellow spots. Underside a brighter yellow than in the ♂, an additional ocellus in interspace 3.

Expanse.— $3\frac{3}{4}$ ".

Not common.

Habitat.—Eastern Bengal, Sikkim Assam, Cachar.



FIG. 252.—DISCOPHORA CELINDE, ♀.



FIG. 253.—DISCOPHORA LEPIDA, ♂.

321. **Discophora lepida**, ♂ ♀.—Upperside as in *D. celinde*, ♂ but without any blue gloss. Forewing crossed pre-apically by three pale blue spots with an ill-defined series of three or four smaller subterminal spots. ♀. The markings on the upper-side of the forewing all pale blue, not yellow, and more numerous, larger and better defined on the upper-side of the hindwing. Underside: ♂ similar to the underside in *D. celinde* but a prominent sub-terminal band dusted with lilac scales on both fore and hindwings. ♀ paler than the ♀ of *D. celinde*.

Expanse.—4".

Uncommon.

Habitat.—Southern India.

322. **Discophora tullia**,FIG. 254.—DISCOPHORA
TULLIA, ♂.

♂.—Upperside dark brown. Forewing with discal, post-discal and subterminal series of bluish spots. Hindwing uniform, but for the discal secondary sex mark and a subterminal series of faintly indicated pale spots. Underside dull brown, an obscure transverse dark band terminating in a lilac patch at the tornus of the hindwing. Both wings thinly covered with transverse brown streaks and tinged with lilac; two ill defined ocelli on the hindwing as in *D. celinde*. ♀ Upperside purplish-brown. Forewing with three transverse series of white spots. Hindwing also with three transverse rows of obscure spots but yellowish in colour. Underside paler than in the ♂.

Expanse.— $3\frac{3}{4}$ " to 4". ♂ Very common.
♀ Uncommon.

Habitat.—Bengal, Sikkim, Bhutan, throughout Assam, Cachar.

Genus—CHARAXES.

323. **Charaxes marmax**, ♂.—Upperside: rich tawny yellow. Forewing: a black spot at upper apex of cell and another beyond it, a post-discal oblique band

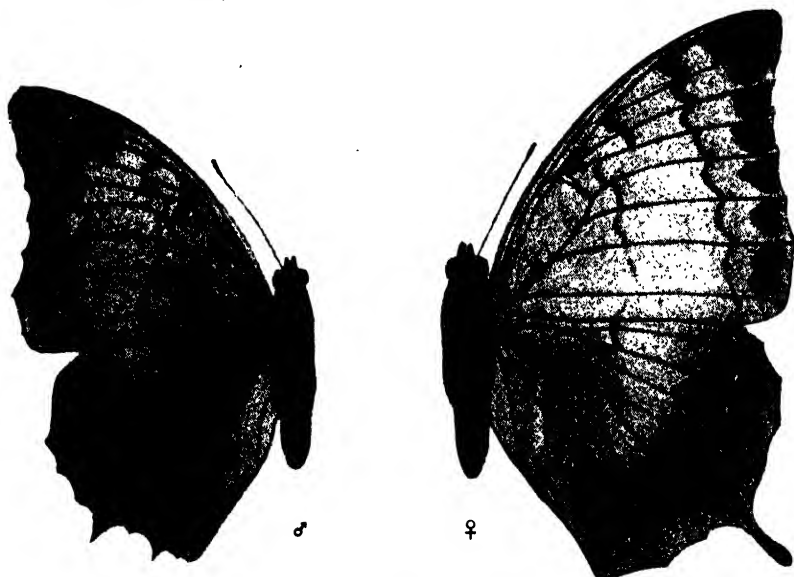


FIG. 255.—CHARAXES MARMAX.

from costa to vein 6 and a broad terminal black band from apex to vein 1, the post-discal band continued as a lunular narrow chestnut band to vein 1. Hindwing: costal margin paler yellow, a short discal narrow black line and a subterminal series of outwardly pointed black spots increasing in size towards the apex, the two small tornal spots centred with white. Underside: brownish-yellow, and with a polished appearance, both wings crossed by numerous waved dark lines, the apex of forewing with two distinct silvery spots and a series of small white spots on the hindwing. ♀ much larger and paler yellow, the tail at apex of vein 4 of the hindwing spatulate and much longer than in the ♂. The subterminal spots of the hindwing all largely centred with white.

Expanse.— $3\frac{1}{4}$ " to 4".

♂ Fairly common.

♀ Rare.

Habitat.—Sikhim and Assam.

324. **Charaxes kahruba**, ♂ ♀.—Closely resembles *C. marmax*, and is recognised chiefly by the strongly pronounced markings of the underside. The broad black terminal band on the forewing which in *C. marmax* ends at vein 1, is carried to the dorsal margin in *C. kahruba*. On the underside the transverse dark lines and bands are very heavily marked.

Expanse.— $3\frac{1}{4}$ " to 4".

♂ Common.

♀ Rare.

Habitat.—The Himalayas, Sikhim and throughout the hills of Assam.

325. **Charaxes aristogiton**, ♂ ♀.—Also closely resembles *C. marmax*. On the upperside the ♂ has the post-discal band on the forewing black throughout and joined to the black terminal band above vein 4. On the hindwing the subterminal black spots often forming a complete band; in many specimens, however, the posterior spots are separate, the two apical large spots always joined together and each bearing a white spot. Underside: dark-purplish tawny with a polished appearance the transverse lines and bands more or less as in *C. marmax*. ♀ the post-discal transverse lunular band on the forewing more heavily marked and broader than in *C. marmax* ♀. Underside: ground colour as in the ♂ but paler, the basal half of both wings darker than the terminal half.

Expanse.— $3\frac{1}{4}$ " to $4\frac{1}{4}$ ".

♂ Fairly common.

♀ Rare.

Habitat.—Sikhim, Bhutan, Assam, Cachar and Sylhet.



FIG. 256.—CHARAXES ARISTOGITON, ♂.

326. **Charaxes psaphon**, ♂ (*race imna*).—Upperside deep reddish-brown. Forewing: a short black bar defining apex of cell and terminal half of wing black. Hindwing: a short discal black line from costa, the apical area bearing a large black patch below which is a series of black spots, the two tornal spots inwardly margined with white. Underside: purplish-brown with a polished appearance. Both wings crossed transversely by a number of fine dark purple lines narrowly margined with whitish and dark reddish-brown bands. On the hindwing a row of minute white spots succeeded by a row of black dots. ♀ a broad white discal band crossing the forewing and continued on hindwing to vein 6. The forewing with a tawny spot near the tornus on the black terminal portion and a series of white spots traversing the black subterminal spots and apical patch. The tail at apex of vein 4 spatulate. Underside paler than in the ♂ but similarly marked.

FIG. 257.—CHARAXES IMNA, ♂.

Expanse.— $3\frac{1}{4}$ " to 4".

♂ Common.
♀ Rare.

Habitat.—Assam, Cachar, Lower Bengal to South India.

327. **Charaxes polyxena**, ♂.—Upperside dark tawny yellow. Forewing with a bar at apex of cell and a little more than the terminal third black, a white

FIG. 258.—CHARAXES POLYXENA, *Race khasianus*.

discal band continued on the hindwing defined inwardly by a black line, the terminal black border in some specimens bearing near its inner margin a series of tawny yellow spots. Hindwing: apical area black, below which is a subterminal series of black spots to the tornus. Underside: markings as in *C. marmax* and ground colour more purplish tawny, a purplish silver sheen on both wings. ♀ much larger and paler than in the ♂, the base of both wings of a browner tint, discal white band very broad, the terminal black border of the forewing traversed inwardly by a row of yellowish-white lunules. On the hindwing the black subterminal series of spots bearing prominent white spots, and the tail at apex of vein 4 produced. *C. polyxena* is very variable specially in the markings and ground colour of the underside and also in the white or pale discal band of the upperside.

Expanse.— $3\frac{1}{4}$ " to $4\frac{1}{2}$ ". ♂ Common. ♀ Rare.

Habitat.—The Himalayas, Sikhim, Bhutan, throughout the hills of Assam, Cachar and Sylhet. The race *khasianus* of which illustrations are shown is common in the Khasia Hills, Assam.

328. **Charaxes fabius**, ♂ ♀.—Upperside: black, both fore and hind wings crossed by a discal band of sulphur yellow spots and a subterminal series of small similar coloured spots. On the hindwing an additional series of sulphur yellow terminal spots and tornal angle bluish-green. The apices of veins 2 and 4 produced forming finely pointed tails. Underside: ground colour dark grey, basal area of both wings with transverse black lines and cell of forewing with three black spots. The discal band as on upperside but white, followed by, on the forewing, a series of dark, yellow subterminal spots and two terminal white spots near the tornal angle, on the hindwing a subterminal and terminal series of larger dark yellow spots, these spots bordered by dark shading. The hindwing bears, in addition, an inner subterminal series of white spots, the tornal area greenish. The terminal area of both wings, but particularly the hindwing, purplish-grey.

Expanse.— $2\frac{3}{4}$ " to 3". Uncommon.

Habitat.—The Himalayas, Sikhim, Bhutan, Central and Western India, South India, Assam, Cachar.

Genus.—EULEPIS.

329. **Eulepis athamas**, ♂ ♀.—Upperside: black, fore and hind wings with a broad discal transverse area from vein 4 in forewing to vein 2 in hindwing pale sulphur yellow with sometimes a greenish tinge. On



FIG. 260.—EULEPIS
ATHAMAS, ♂.



FIG. 259.—CHARAXES
FABIUS, ♂.

apical area of forewing a large and a small sulphur yellow spot. On hindwing a subterminal row of pale yellow spots and terminal row of darker yellow spots, the tornal angle with a large yellowish spot edged with blue, the tails at apices of veins 2 and 4 touched with blue. Underside: with the discal band and apical spots of the forewing as on upperside but paler, the discal band bordered on the inner side by a broad dark brown band margined with black lines and narrowly margined on the outer side by a dark line. A subterminal series of dark lunules on the forewing and dark red lunules on the hindwing, terminal border paler with, on the hindwing a series of obscure white, black and yellow marginal spots, tails and tornal area touched with blue. In the ♀, which is rather larger than the ♂, the markings are similar, but the discal band and sub-apical spot of forewing are much more extensive.

Expanse.—3" to 3½". ♂ Very common ♀ Fairly rare.

Habitat.—Practically throughout India.

Notes.—This fly is very variable in the width and colour of the discal band.

330. ***Eulepis arja***, ♂ ♀.—Almost identical with *Eulepis athamas*, but can be easily recognised by the discal band being white or pale greenish-white, never yellowish.

Expanse.—3" to 3½".

Uncommon.

Habitat.—Sikhim and Assam.



FIG. 261.—*EULEPIS SCHREIBERI*, ♂.

331. ***Eulepis schreiberi***, ♂ ♀.—Upperside: black slightly glossed with blue or light green at the base of the wings. Fore and hind wings with a broad white discal bar bordered with blue on the outer side. In addition the forewing has a white spot in interspace 5 and a small white speck beyond it towards the apex. Hindwing with a subterminal row of small white spots followed by a terminal row of deep reddish-yellow spots and blue markings on the tails and margin of wing near the tornal angle. Underside: pearly white and brownish-pink along the dorsal margin of the hindwing. Both wings crossed by a transverse olive green band margined on both sides with black and followed by a discal bluish-white band. Beyond the discal band of the forewing a series of dark lunules on a purplish ground, on the hindwing a series of bright red lunules placed on an olive green ground, a sub-terminal narrow green band and terminal yellow lunules, tails black touched with blue. The apex and terminal border of forewing olive green. In the ♀ the discal band is of greater width and the two spots beyond, towards apex of forewing, larger.

Expanse.—3½" to 4¼".

Rare.

Habitat.—Southern India and Assam.

332. **Eulepis delphis**, ♂ ♀.—Upperside: pale sulphur yellow. Forewing: apical area from middle of costa to apex of vein 2, black, the inner margin of the black area irregular, and three whitish-yellow pre-apical spots. Two black terminal spots in interspace 1. Hindwing: a subterminal series of bluish-black lunules, the tails with median streaks of pale blue. Underside: silvery white. Forewing: two to three black spots in cell, a black mark at apex of cell with a short black line beyond it and a round black mark at base of interspace 2, the latter with a bluish-grey centre; a post-discal series of bluish lunules followed by a row of yellowish-brown spots. Hindwing: a subcostal round spot, a much smaller spot in the interspace below it and a black mark at apex of cell with short slender lines below it in interspaces 1a, 1 and 2.

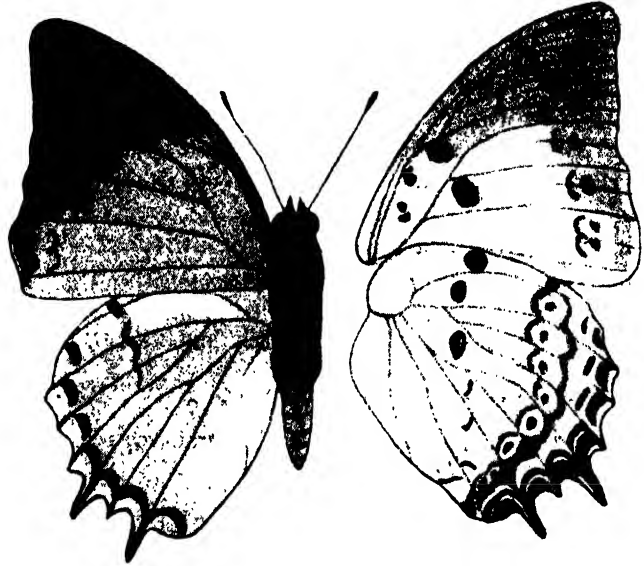


FIG. 262.—EULEPIS DELPHIS, ♂.

A post-discal series of blue lunules followed by a series of red spots, the anterior three yellow, then a yellowish band, a subterminal series of blue lunules and a terminal series of large yellow spots; the tails with median streaks of pale blue. ♀ larger.

Expanse.— $3\frac{3}{4}$ " to $4\frac{1}{2}$ ".

Very rare.

Habitat.—Assam and Cachar.

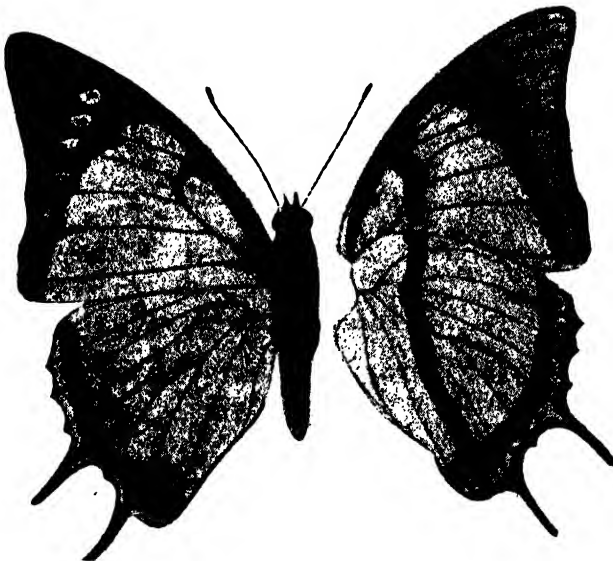


FIG. 263.—EULEPIS DOLON, ♂.

333. **Eulepis dolon**, ♂ ♀.—Upperside pale yellowish-white. Forewing: the costa, a short bar at apex of cell, apex of wing

and terminal area very dark brownish-black, the terminal dark area bearing five to six yellowish-white spots. Hindwing: a subterminal brownish-black band traversed by a series of bluish-white spots, the tails and apices of the veins with streaks of pale blue, the tornal angle with black encircled blue spots. Underside: pearly-white. Forewing: costa for about three-fourths of its length, a short black bar at apex of cell continued down to vein 2, a post-discal dark brown band outwardly margined with black from costa to tornus and the terminal margin rich brown. Hindwing: an inwardly curved, black edged band from costa to near tornal angle yellowish-brown, a subterminal curved band bearing a complete series of black edged lunules, followed by minute black specks in the interspaces on a silvery white band, the tails and apices of the veins streaked with blue. The terminal margin narrowly yellowish-brown. ♀ much larger.

Expanse.— $3\frac{1}{2}$ " to 5".

♂ Not rare.

♀ Rare.

Habitat.—The Himalayas, Sikkim, Bhutan, Nepal, Assam and Cachar.

334. ***Eulepis endamippus***, ♂ ♀.—Upperside: pale yellowish-white. Forewing: the costal margin, the cell, a transverse bar at apex of cell joining a broad line at base of interspace 3 and the apical half of wing black, the black terminal area with a spot beyond apex of cell followed by two beyond, a post-discal and a subterminal series of spots, yellowish-white. Hindwing: a subterminal bluish-grey band bearing large pale yellow, black bordered spots followed by yellow lunules and a bluish-grey border the margin narrowly black except at tornal angle, tails streaked with bluish-grey. Underside: silvery white. Forewing:

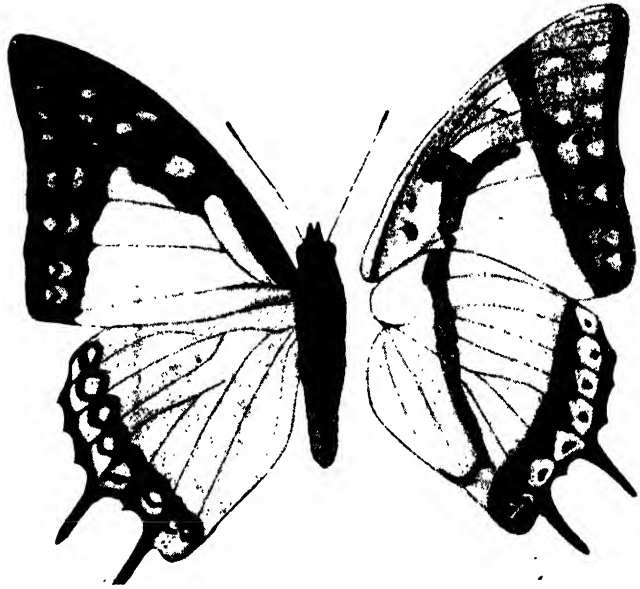


FIG. 264.—*EULEPIS EUDAMIPPUS*, ♂.

two black spots in cell, followed by a large Y-shaped mark bordered by broken black lines, a discal and a terminal band olive brown; the discal band is outwardly margined by a series of black lunules. Hindwing: markings as in *E. dolon*, with the addition of a subtornal short black line from the dorsum to the median band. ♀ much larger and with the tails much longer.

Expanse.—4" to 5".

♂ Fairly common.

♀ Rare.

Habitat.—Darjeeling district, Sikkim, the hills of Assam, Cachar.

335. **Eulepis lissainei**, ♂.—Much smaller than the two foregoing but rather similar to them. Pale yellow on upperside and pale yellowish-green on underside bearing broad bands of dark brown edged with black.

Expanse.— $2\frac{1}{4}$ ".

Local.

Habitat.—Naga Hills in Assam.

Genus.—HELCYRA.

336. **Helcyra hemina**, ♂ ♀.—Upperside: white. Forewing: a round black spot at end of cell and a post-discal black spot in interspace 1. The apex

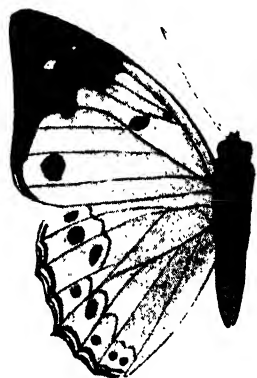


FIG. 266.—HELCYRA
HEMINA, ♂.

and terminal border black with two subapical white spots, the lower spot the larger. Hindwing: a series of eight subterminal black spots and a narrow terminal black line. Underside: silvery white with a slight bluish sheen, the markings of the upperside showing through. Hindwing with three subternal spots, the upper one of these marked with yellow and a dull spot in interspace 6; on the inner side of these spots a very slender transverse lunular line crosses the wing.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Rare.

Habitat.—Sikhim and the hills of Assam.

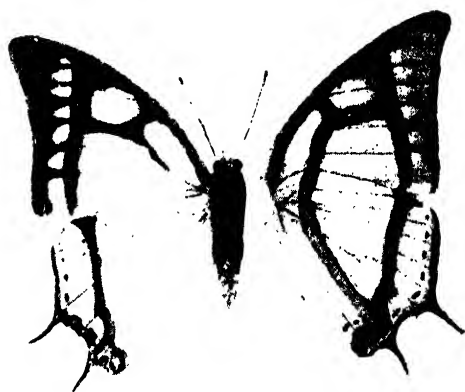


FIG. 265.—EULEPIS LISSAINEI, ♂.

Genus.—APATURA.

337. **Apatura ambica**, ♂.—Upperside: brownish-black, a white discal band across both wings bordered broadly on both sides by brilliant iridescent blue. Three pre-apical white spots and an obscure subterminal series of white dots on the forewing and a better defined subterminal series of white spots on the hindwing. On the hindwing also an apical and a tornal yellowish-red spot. Underside: bluish-white with a pearly sheen, the discal band and spots of the upperside showing through pinkish-white. Forewing: some black marks in the cell, an oblique post-discal and a broad terminal band rich brown, above the tornal angle a yellowish-red

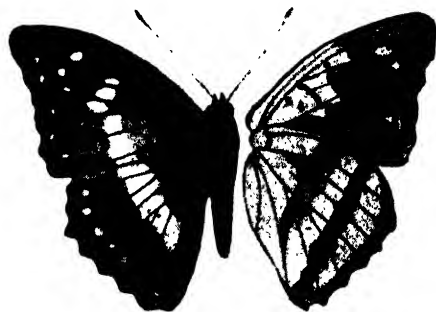


FIG. 267.—APATURA AMBICA, ♂.

patch bearing a black spot with some outer black markings and white spots at the tornal angle. Hindwing: with a straight post-discal and a terminal band of rich brown, a black white-bordered subtornal spot and another in interspace 2 on the post-discal band. ♀ with similar markings but ground colour on upperside dusky brown, the markings yellowish-white.

Expanse.— $2\frac{1}{2}$ " to 3".

Uncommon.

Habitat.—The Himalayas, Kashmir to Sikkim, the hill ranges of Assam, Cachar.



FIG. 268.—*APATURA SORDIDA*, ♀.

338. ***Apatura sordida***, ♂ ♀.—Upperside: brown. Forewing: an oblique discal white band formed of rectangular spots, a small spot beyond in interspace 4 and two pre-apical spots white. Hindwing: a lunular subterminal dark line inwardly bordered by a row of dark spots and a terminal row of pale lunules. Underside: greyish-brown. Forewing: the discal band and spots as on upperside, a black, yellow ringed ocellus and dark brown shading in the interspace below it bordered inwardly with white, a subterminal dark line and some dull white marks on the termen below apex and at tornus. Hindwing: an incomplete discal white band and a series of white spots beyond ending in a well marked, yellow ringed, blue centred, black ocellus in interspace 2; finally, a subterminal dark line. ♀ similar, the hindwing is more rounded and the discal band on the forewing is much broader.

Expanse.— $2\frac{1}{2}$ " to 3".

Rare.

Habitat.—Sikkim, the Khasia Hills in Assam, Cachar and Manipur.

339. ***Apatura naga***, ♂ ♀.—Similar to *A. sordida*, but the oblique discal band of the forewing is pale yellow and not white as in *A. sordida*, the typical form. The tornal ocellus on the hindwing not ringed and very indistinct. Underside: greyer than typical form with a golden sheen along terminal area. Forewing: a blue centre to the ocellus and the cell closed by a brown bar. Hindwing: the discal brown band very concave near the costa and the white spots outwardly further placed from the discal band than in the type *A. sordida*.

Expanse.— $2\frac{1}{2}$ " to 3". Very rare.

Habitat.—The Naga Hills at 6,000 feet.

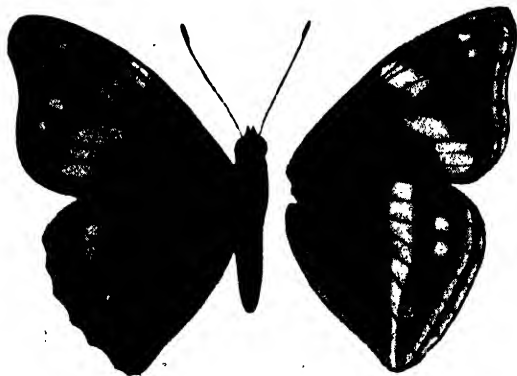


FIG. 269.—*APATURA FLORENCIAE*, ♀.

340. ***Apatura florenciae***, ♂ — Upperside: dark brown. Forewing: a band from near costa to near tornal

angle, a post-discal band, a subterminal series of spots dark yellow; two spots before the apex pale yellow. Hindwing: dusky brown, two lines of obscure post-discal pale spots and a subterminal lunular band dark yellow; a submarginal series of dark brown spots and a black yellow ringed spot in interspace 2. Underside: greenish. Forewing: dorsal area broadly purplish-brown, a large black ocellus in interspace 2 and a small black speck in the interspace above it, the bands and spots as on upperside but very pale, those of the apical area silvery white. Hindwing: a silvery white band from costa to tornal angle inwardly margined by a greenish-yellow line, post-discal series of silvery white spots and a pale yellow ringed ocellus in interspace 2. ♀ slightly larger, with more rounded wings and of a dusky green ground colour on the upperside, the marking very pale yellow and no spot within the cell. Underside: pale silvery bluish-green, the markings almost pure white.

Expanse.— $2\frac{1}{2}$ " to 3".

Rare.

Habitat.—The Naga Hills.

341. ***Apatura manipuriensis***. pale hyaline markings. Forewing: that portion of the wing about the cell and post-median area hyaline dusted with pale brown scales, a large black spot in interspace 2 and a brown diffuse patch in interspace 1, a pre-apical pale spot in interspace 6 and a brown terminal band. Hindwing: basal half hyaline, outer half brown traversed by a pale violet tinted band composed of lunules, a dark spot in interspace 2 and a dark terminal waved line. Underside: pale silvery mauve, the hyaline marking as on upperside, both wings with a black spot in interspace 2, centred with bluish-white and encircled by a yellow and a pale brown ring. ♀ nearly entirely brown, both wings crossed by a pale whitish discal band, and a subterminal pale lunular band. On the forewing a pale sub-apical hyaline spot and a black spot in interspace 2. Underside pale brown, both wings crossed by a white discal band inwardly bordered by dark brown, an ocellus in interspace 2 on both wings as in the ♂.

♂.—Upperside: smoky brown with very

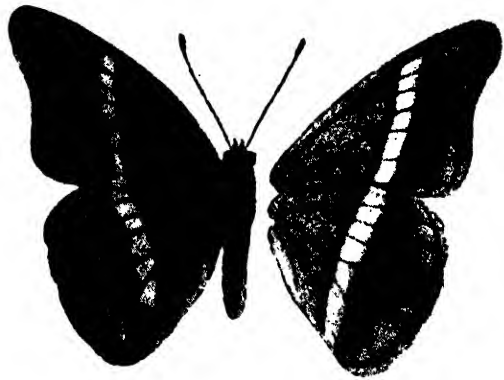


FIG. 270.—*APATURA MANIPURIENSIS*, ♀.

Expanse.—3".

Rare.

Habitat.—At the foot of the hills near Sebong, Manipur.

342. ***Apatura chevana***, ♂ ♀.—Upperside: black. Forewing: a wide streak in cell, followed by two elongate spots, a curved discal series of large and small spots, a subterminal line of spots and a terminal line of smaller spots, all creamy white. Hindwing: a sub-basal broad transverse band and a post-discal series of spots creamy white. Underside: pearly bluish-white, the white makings as on upperside but less well-defined, the brown bands more or less as in *A. ambica*.

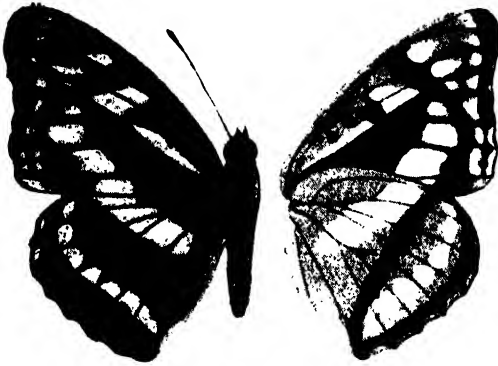


FIG. 271.—*APATURA CHEVANA*, ♂.

Expanse.— $2\frac{1}{2}$ " to 3". Uncommon.

Habitat.—Sikhim, the hills of Assam.

343. ***Apatura parisatis***, ♂.—Upperside, both fore and hind wings very dark brownish-black the terminal margin of forewing slightly paler and with a very minute white speck on the costa before the apex. Underside: dark brown the base of both wings reddish bearing small black spots. Wings crossed by darker brown bands and discal and subterminal purplish markings, in interspace 2 of forewing a dark brown blind spot and on the hindwing this spot centred with white. Fringe of both wings on both upper and under sides alternately brown and white. ♀ yellowish-brown traversed by dark brown bands, four minute white spots before apex of forewing and a yellow ringed dark spot in interspace 2. Hindwing with 4 post-discal-like spots in the interspaces 2 to 5.



FIG. 272.—*APATURA PARISATIS*.

Expanse.— $1\frac{3}{4}$ " to 2".

♂ Common. ♀ Scarce.

Habitat.—The Himalayas, Sikhim and throughout Assam and Cachar.

The form *camiba*, has on the forewing on both upper and under sides three minute sub-apical white spots in the ♂ and five in the ♀. Occurs in Southern India.

344. ***Apatura parvata***, ♂ ♀.—Resembles *A. camiba* entirely in the colouring of the underside. ♂ reddish-brown, the forewing with yellow median spots, the hindwing with an oblique median band of pale yellow, shading into reddish outwardly. ♀ duller brown than the ♂, on the forewing distinct traces of a pale median area.

Expanse.— $1\frac{3}{4}$ " to 2".

♂ Common.

♀ Rare.

Habitat.—Sikhim, Bhutan and the Khasia Hills, Assam. Ascends to about 5,000 feet.

345. **Apatura ulupi**, ♂.—Only one specimen is known, a ♂, from Margherita in Upper Assam. Slightly smaller and with broader black terminal border than shown in illustration, which is that of the Indo-Chinese species *chrysolora*.

Expanse.—2".

Habitat.—Margherita, Assam.

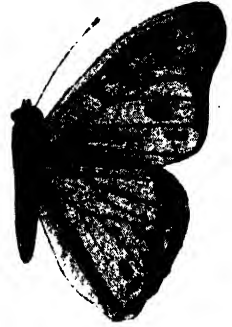


FIG. 273.—*APATURA CHRYSOLORA*, ♂

Genus.—*DILIPA*.

346. **Dilipa morgiana**, ♂.—Upperside: rich golden brown, a medial and post-discal band golden yellow, a



FIG. 274.—*DILIPA MORGIANA*, ♂.

prominent round white spot near apex and one or two minute white dots in line below it. Hindwing with a large discal patch golden yellow also a sub-apical and tornal patch of the same colour. The ♀ differs from the ♂ in having the spots white faintly suffused with violet instead of golden yellow. Underside of forewing of ♂ rufous with greenish-brown apex; hindwing pale ochreous, suffused with greenish. In the ♀ the forewing is marked with white instead of yellow, the hindwing with a white band, widening in the middle.

Expanse.—3" to $3\frac{1}{4}$ ".

Rare.

Habitat.—The Himalayas, Sikhim, Nepal to Assam and Naga Hills.

Note.—The ♂ is not uncommon in the Naga Hills, the ♀ very scarce in all localities.

Genus.—*HERONA*.

347. **Herona marathus**, ♂ ♀.—Upperside: very dark brown. Forewing: a broad streak in interspace 1, three oblique equidistant bands across the wing and tornal area bordered with three irregular spots orange yellow. A white spot at lower end of pre-apical band. Hindwing with two transverse bands converging and meeting below the apex, the dorsum, tornal angle and termen posteriorly, orange yellow. Underside: dusky



FIG. 275.—*HERONA MARATHUS*, ♂.

yellow, the markings more or less as on the upperside but paler and blurred, of a pinkish-white. The white sub-apical spot on the forewing produced to the termen. ♀ similar to the ♂ but with the orange yellow markings paler and narrower.

Expanse.— $2\frac{1}{2}$ " to $3\frac{1}{4}$ ". Common.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam and Cachar.



FIG. 276.—*HESTINA NAMA*, ♀.

Genus—*HESTINA*.

348. ***Hestina nama***, ♂ ♀.—Upperside: Forewing: dark blue black covered with pale bluish-white streaks and spots in the interspaces. Hindwing: dark chestnut with broad bluish-white streaks from base and an irregular series of whitish terminal spots. Underside: similar, apex of forewing suffused with chestnut. ♀ larger than the ♂.

Expanse.— $3\frac{1}{4}$ " to 4". Common.

Habitat.—The Himalayas, Sikkim, Bhutan and throughout the hill ranges of Assam.

Genus—*PARHESTINA*.

349. ***Parhestina persimilis***, ♂ ♀.—Upperside: Forewing: black, two white streaks from base in interspace 1 and a short streak in the cell followed by series of whitish-green spots to the terminal border. Hindwing with broad whitish-green streaks in cell and interspaces followed by a post-discal posterior series of three small spots, a complete subterminal series of spots and a terminal line of minute spots. ♀ but slightly larger than ♂.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Uncommon.

Habitat.—The Himalayas, Nepal, Sikkim and Assam at low elevations.



FIG. 277.—*PARHESTINA PERSIMILIS*.

350. ***Parhestina nicevillei***, ♂.—Closely resembles *P. persimilis*, but is much larger. The markings of the upperside remind one of *Papilio macarcus*; yellowish with black border and veins, underside with delicate black network and broad yellow border of the dorsal area. Only one ♂ is known from the North-Western Himalayas taken at the end of May in 1879 near Chumba.

Expanse.—3".

Habitat.—N. W. Himalayas.

Genus—EURIPUS.

351. **Euripus halitherses**, ♂.—Constant in form, but of the ♀ eight forms are known. ♂ Upperside: black with creamy white markings: a streak from base in interspace 1, a streak with a spot below it in cell, a transverse spot at apex of cell and a large spot at base of interspace 2. Beyond these a discal series of spots, a post-discal series of paired streaks and a line of small spots on terminal border near tornus. Hindwing with streaks in cell and interspaces followed by subterminal and terminal rows of small white spots, those in the subterminal row are paired. Underside: dark brown, markings as on upper-side but larger and clearer, the streak from base in interspace 1 on the forewing wanting, additional streaks in interspaces 7 and 8 and at apex in hindwing. Abdomen barred with white on the sides and thorax spotted with



FIG. 277a.—EURIPUS HALITHERSES, ♂.



FIG. 277b.—EURIPUS HALITHERSES, ♀.

white beneath. ♀ is polymorphic. Wings very different in shape to those of the ♂. The commonest form of the ♀ has on the forewing an obscure white spot at apex of cell, a broad oblique white discal band and a terminal series of obscure white spots. On the hindwing white streaks in the cell and interspaces, a subterminal and terminal row of obscure white spots. An extreme pale form has the hindwing almost completely white also the dorsal margin of the forewing washed with white in addition to the oblique discal white band and terminal spots. In the dark forms the forewing with violet

or blue iridescence and without the white discal band, hindwing dark cinnamon brown with obscure white terminal spots.

Expanse.—2½" to 3".

♂ Common.

♀ Scarce.

Habitat.—Darjeeling, Sikkim, Assam, Cachar, and Manipur.



FIG. 277c.—EURIPUS HALITHERSES, ♀.

352. **Euripus consimilis**, ♂.—Upperside: Forewing: black, a long streak from base in interspace 1, a slender streak in cell with a minute spot below it, a broad oblique median band followed by a row of paired streaks in interspaces 3,

4 and 5, a post-discal series of streaks from costa to interspace 2 and a terminal row of small dots turning into streaks towards the apex. Hindwing: white, crossed by the black veins, the termen black traversed by a subterminal series of four or five crimson spots posteriorly and beyond by a terminal row of white spots. Underside: similar, the hindwing with an additional crimson patch at base. Body beneath and sides of abdomen marked with white. ♂ is similar in size, shape of wings and markings as *E. halitherses*, except for the crimson spots. ♀. Only two forms have been described, one with the hindwing clear white the other of ivory colour. The females have no crimson terminal spots but retain the basal crimson patch on the underside of the hindwing.



FIG. 278.—EURIPUS
CONSIMALIS, ♂.
Underside.



FIG. 278a.—EURIPUS CON-
SIMILIS, ♀.

Expanse.—2" to 3". Very rare.
Habitat.—The Himalayas, Sikhim, Nepal Terai,
Assam, Cachar and Southern India.

Genus—SEPHISA.

353. **Sephisa dichroa**, ♂ —Upperside: black. Forewing: an oblique spot across cell, a streak in interspace 1a, four large discal spots, three elongate oblique spots above them, three sub-apical smaller spots and a more or less obscure series of subterminal spots tawny yellow. Hindwing: the cell and interspaces at base and a subterminal series of spots rich tawny yellow, a small blue spot in interspace 2 and a line of pale terminal spots. Underside: similar, some blue spots at apex of cell and apical spots of the forewing bluish-white, the blue spot in interspace 2 on the hindwing large and prominent, the terminal spots bluish-white. ♀ larger and paler, the markings of the underside blurred, two large inwardly pointed bluish-white spots at the tornal angle of the forewing.



FIG. 279.—SEPHISA
DICHROA, ♂.

Expanse.—2½" to 3". ♂ Not common ♀ Scarce.
Habitat.—Western Himalayas. A rapid flier, occurring up to 6,000 feet.

354. **Sephisa chandra**, ♂ —Upperside: black. Forewing with four large tawny yellow median spots followed by a discal series of five white spots and two

pre-apical smaller white spots and an obscure subterminal series of blue spots. Hindwing as in *S. dichroa*, a round black spot in cell. Underside: Forewing: blue spots at base of interspace 1 and the cell, three blue spots at apex of cell, sub-terminal and terminal markings brilliant blue. Hindwing as in *dichroa*, the terminal spots larger and brilliant blue, the round black spot in cell larger than on upperside. ♀ There are several forms of the female which differ from the ♂ in the more rounded wings. The rarest form resembles the ♂, the hindwing with pale yellow patches, defined with whitish. In the more usual form the forewing bears a large tawny yellow spot in the cell followed by 2 series of white spots and the apex streaked with whitish between the veins, the remaining spots of the forewing blue as also all the markings of the hindwing. Underside: similar to upperside with the addition of two tawny yellow discal spots and a series of paler yellow subterminal spots. A further form similar to the above form just described has on both upper and undersides of the forewing a broad white pre-apical bar which is most striking. Abdomen spotted white beneath.



FIG. 280.—SEPHISA CHANDRA, ♂.

Expanse.— $3\frac{1}{4}$ " to 4".

♂ Not uncommon.

♀ Very scarce.

Habitat.—Darjeeling Terai, Nepal, Sikhim and hill ranges of Assam.

Genus.—NEUROSIGMA.



FIG. 281.—NEUROSIGMA DOUBLEDAYI, ♀.

355. **Neurosigma doubledayi** ♂.—Black, thickly covered with white spots. Forewing at base with a large dark orange patch and a dull orange spot at apex of cell. Underside: similar. ♀ differs in the rather smaller white markings and in having on the upperside of the hindwing two orange spots at the bases of interspaces 4 and 5. Underside: the orange markings dull and paler, the whole of the black markings dull and of a bluish-grey.

Expanse.—3" to $4\frac{1}{4}$ ".

Rare.

Habitat.—Sikhim, Bhutan, and hills of Assam.



FIG. 282.—NEUROSIGMA
FRATERNA, ♂.

356. **Neurosigma fraterna**, ♂.—Similar to *N. doubledayi*, but on the forewing the orange colouring is darker and spreads over the whole of the wing except the apex. On the hindwing the orange colouring occupies the cell and bases of interspaces 2 to 6. On the underside the apical markings of the forewing and terminal markings of the hindwing bluish white.

Expanse.— $3\frac{1}{2}$ ".

Rare.

Habitat.—The Himalayas, Sikkim, and hill ranges of Assam.

Genus.—DICHORRAGIA.

357. **Dichorragia nesimachus**, ♂ ♀.—

Upperside: the ground colour is of a bluish olive green, spotted with black and bluish, on the terminal border a fine white zigzag line. Underside: forewing purplish black; hindwing dull black, the markings as on upperside but larger and clearer, the spots on the disc of the hindwing obscure. The spots in the cell of the forewing join and form prominent purplish-blue bars.

Expanse.—3" to $3\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Sikkim and the hill ranges of Assam. Common in the Khasia Hills.



FIG. 283.—DICHORRAGIA
NESIMACHUS, ♂.

Genus.—STIBOCHIANA.

358. **Stibochiana nicea**, ♂.—Upperside: deep

black. Forewing: cell with three transverse blue spots, a curved series of four discal and five post-discal small white spots and a complete series of subterminal similar spots bordered inwardly by a row of paired blue spots on each side of the veins. Hindwing: a post-discal transverse sinuous blue line followed by a subterminal series of blue circular spots with black centres, their rims outwardly white. Underside: similar. On the forewing the discal and post-discal spots each seven in number, the subterminal row of spots not bordered inwardly with the paired blue spots. Hindwing: a transverse line of discal spots blue followed by a series of 5 or 6 post-



FIG. 284.—STIBOCHIANA
NICEA, ♂.

discal dots and a subterminal line of a large crescentic spots purplish-white. ♀ Similar, but on the upperside the ground colour is tinged with green, the cell markings and the subterminal paired spots on the forewing and the post-discal band on the hindwing metallic green. Underside: markings larger than in the ♂.

Expanse.— $2\frac{3}{4}$ " to 3".

Common.

Habitat.—The Himalayas, Sikhim and throughout the hill ranges of Assam, Cachar and Manipur.

Genus.—ABROTA.

359. **Abrota ganga**, ♂.—Upperside: rich yellowish-brown and dusky black markings. Forewing: a black bar at apex of cell and dusky black markings on both sides of the cell joining in interspace 3, a subterminal lunular band, terminal margin and apex dusky black. Hindwing: crossed by a basal, a discal, a subterminal and terminal dark band. Underside: paler yellow crossed by chestnut red lines and markings, one or two white spots at apex of forewing. ♀ larger. Upperside: dark brown with the following orange markings. A streak in lower half of cell extending well beyond its apex, an interrupted discal band of spots from costa to middle of dorsum, no spot in interspace 3, a subterminal obscure band and two to three pre-apical spots, these last white. Hindwing with a subbasal and a post-discal orange yellow band. Underside: purplish-red the transverse yellow bands less well defined.



FIG. 285.—ABROTA GANGA. ♂.

Expanse.—3" to $3\frac{1}{4}$ ".

Uncommon.

Habitat.—Sikhim.

360. **Abrota jumna**, ♂ ♀.—Similar to *A. ganga*, but in the ♂ the ground colour is paler and on the hindwing the discal and subterminal bands are very close together separated only by a narrow line of the ground colour. In the ♀ the yellow bands are broader. Underside: in both sexes as in *A. ganga*.

Expanse.—3" to $3\frac{1}{4}$ ".

Common.

Habitat.—Sikhim and Bhutan.

Genus.—SYMPHÆDRA.

361. **Symphædra dirtea**, (race *Khasiana*) ♂.—Upperside: Forewing black with an indication of a few bluish-white specks along the costal area, a distinct round white spot before the apex and a minute white speck above it on the costa, a narrow subterminal band of greenish-blue spots not reaching the apex.

Hindwing with a broad band on the terminal half, violet anteriorly and blue posteriorly, this band traversed by a subterminal row of black spots. Fringe of



FIG. 286.—*SYMPHÆDRA KHASIANA*, ♂.

both wings black alternated with white. Underside: a rich dark rufous, the spots in the cell and on discal area yellowish on both wings. On the forewing a post-discal series of bluish-white spots the sub-apical spot clearly defined and that in interspace 1 of the series, yellowish. Near the tornal angle a whitish

spot. ♀ much larger with the whole of the wings crossed by rows of whitish-blue spots, those towards the base of the forewing yellowish - white.

The hindwing bearing a wide

subterminal bluish-white band bearing large round black spots in the interspaces. On the underside of the forewing the spots in the cell and apical subterminal series of spots yellowish, on the hindwing the ground colour is yellowish-green and all the spots yellow. Body above black spotted with yellowish white, beneath yellow.



FIG. 286a.—*SYMPHÆDRA KHASIANA*, ♀.

Expanse.—3" to 4".

Fairly common.

Habitat.—Sikhim, Bhutan, the hill ranges of Assam and Cachar.

362. *Symphædra cyanipardus*, ♂ ♀.—Similar to *S. khasiana*, but very much larger and the ground colour of the underside a rich dark indigo green, the spots bluish-white not yellow.

Expanse.—4" to 5".

Uncommon.

Habitat.—The hill ranges of Assam. The Khasia Hills and Cachar.

Genus—*DOPHLA*.

363. *Dophla teuta*, ♂.—Upperside: very dark brown. Fore and hind wings with a broad cream coloured discal band composed of a continuous series of spots, these spots on the forewing extend up to interspace 6, which has also another spot near the apex, a crimson spot at tornal angle of hindwing. Underside: pale brown, the base on forewing below the cell, a post-discal shading on both

wings darker brown; the discal band across both wings and the pre-apical spot on the forewing defined on both sides by reddish-brown lines, the base of costa crimson. Cell of forewing with a round spot in middle and an apical bar crimson defined by black lines; cell of hindwing with a similar apical bar; finally, a post-discal series of black streaks in the interspaces on both wings. ♀ similar but larger and much paler

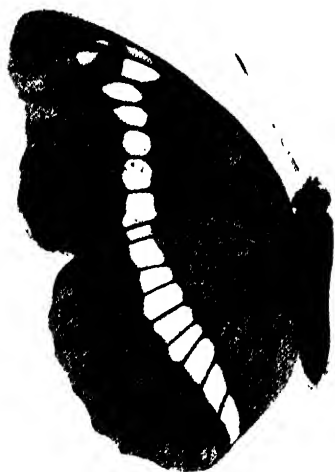


FIG. 287a.—*DOPHILA TEUTA*, ♀.
Underside.

on terminal half of wings; discal band as in the ♂ but pale bluish-white. Both wings with a post-discal series of large lunular dark brown spots. Underside: of a purplish tint, the interspaces on the hindwing touched with purple on the inner side of the post-discal series of black spots. The tornal angle of the hindwing on both sides with a crimson spot.



FIG. 287.—*DOPHILA TEUTA*, ♂.

Expanse.— $3\frac{1}{4}$ " to $3\frac{3}{4}$ ".

Uncommon.

Habitat.—Assam, Khasia Hills, Cachar and Sylhet.

364. *Dophla durga*, ♂ ♀.—Upperside: dark green; cell with two black loop-like marks on forewing and one at apex of cell on hindwing, both wings crossed by a broad white discal band inwardly bordered with pale blue. Beyond the band posteriorly on the forewing and along its whole length on the hindwing is a broad shading of blue extending to the dorsal margin. Fore and hind wings with an obscure post-discal dark band, the forewing with two pre-apical white spots followed by a transverse band of the green ground colour; on the hindwing the post-discal band is followed by a narrow interrupted band of pale blue; terminal margins black and fringe alternated black and white. Underside: Fore and hind wings with basal black loop markings and the basal area up to the discal band metallic greenish-blue, this colour on the hindwing extending below and beyond the discal band, the terminal portion of the wings a brownish-green. Forewing with a well marked post-discal dark band which on the hindwing is not so clearly defined except at the tornal angle. ♀ Similar to the ♂, but slightly larger.

Expanse.—4" to $4\frac{3}{4}$ ".

Uncommon.

Habitat.—Sikhim, Bhutan, Khasia and Naga Hills.

Note.—Very similar to *D. duda*, the next described.

365. **Dophla duda**, ♂ ♀.—Very similar to *D. durga*, but smaller and with the discal band narrower; the spots of the discal band on the forewing decreasing in size upwards, the posterior two or three spots diffuse. On the hindwing the discal band is not bordered by black lines. Underside: ground colour entirely metallic greenish-blue. ♀ larger.



FIG. 288.—*DOPHLA DUDA*, ♂.

large pale spots in the interspaces 1, 2 and 3 on the forewing. Hindwing: the post-discal dark band formed of spots; a large conspicuous sub-costal pale yellowish patch in interspaces 6 and 7. Underside: greenish-yellow. Forewing: markings as on upperside but the pale spots more clearly defined forming an oblique discal band. Hindwing with slender, black, loop-like basal markings and a straight pale yellow discal band of spots. ♀ Similar but darker. Forewing: an oblique discal

Expanse.— $3\frac{1}{2}$ " to 4".

Rare.

Habitat.—Sikhim, Bhutan, the Khasia Hills, Assam.

366. **Dophla nara**, ♂.—Upperside dark olive green with the usual black loop-like markings in the cell, discal and post-discal dark bands between which posteriorly are



FIG. 289.—*DOPHLA NARA*, ♂.

band from costa to interspace 2, composed of white spots in the interspaces and two pre-apical white spots. Hindwing: without the large sub-costal yellow patch, but a white spot in interspace 7 and another in 6. Underside: olive green, the markings as on upperside but duller.

Expanse.—3" to 4".

Very rare.

Habitat.—Sikhim, Nepal, the Naga Hills, Assam.

Note.—The males are fairly common at the lower elevations in the Naga Hills.



FIG. 289a.—*DOPHLA NARA* ♀.

367. **Dophla curvifascia**, ♂ ♀.—Similar to *D. nara*, but of a bronzy tint; the discal band of the forewing formed of spots as in *D. sahadeva*, but smaller. Hindwing with a conspicuous curved pale yellow band narrowing to a point in interspace 2.

Expanse.— $2\frac{3}{4}$ " to $3\frac{1}{2}$ ".

Habitat.—The Naga hills.

Very rare.

368. **Dophla sahadeva**, ♂ ♀.—Both sexes very similar to the ♀ of *D. nara*. Upperside: dark green. Forewing: the usual black loop-like markings in cell, the space between the medial and apical pair of lines yellowish, an oblique discal yellowish band formed of spots, followed by a post-discal dark transverse band outwardly margined by a pale area, and two obliquely placed preapical white spots. Hindwing: a slender loop-like black mark at apex of cell, a discal series of from three to six detached yellowish spots decreasing in size posteriorly and a black post-discal series of lunular spots. Fringe alternated brown and white. Underside: yellowish-green, the markings much as on the upperside. ♀ much larger, the discal bands pure white. Underside paler.

Expanse.— $3\frac{1}{2}$ " to $4\frac{1}{2}$ ".

Uncommon.

Habitat.—Nepal, Sikhim, the Khasia and Naga Hills, Assam.



FIG. 290.—*DOPHLA SAHADEVA*, ♂.

369. **Dophla iva**, ♂ ♀.—Upperside: very dark green. Forewing with the usual black loop-like markings across the cell, a black diffuse discal band bearing a series of white, broad and sharply pointed, spots extending from costa to interspace 2, two small white spots in interspace 1 and a dull whitish patch near apex; two obliquely placed pre-apical white spots, followed by a broad post-discal black transverse band. Hindwing with a slender black loop-like marking at apex of cell, discal and post-discal dark bands, the former bearing anteriorly three or four white spots. Underside: a lovely green, forewing with a slightly yellowish tone; hindwing pale emerald-green with six rounded white discal spots.

Expanse.—4" to $4\frac{3}{4}$ ".

Very rare.

Habitat.—Sikhim, Manipur and the Naga Hills. July to September.

Note.—One of the rarest of Indian butterflies. Larger than *D. sahadeva*, which it resembles in colouring.

370. **Dophla patala**, ♂ ♀.—Similar to the foregoing described species. On the hindwing of the upperside a quadrate large white spot midway in interspaces 6 and 7. On the underside of the forewing with the addition of two small bluish-white spots in interspace 1 below the termination of the discal band and on the hindwing three bluish-white spots in continuation of the white spots in interspaces 6 and 7.

Expanse.—4" to 4½".

Rare.

Habitat.—The Himalayas, Chumba to Nepal.

Note.—The race *D. taoana* which is larger, has proportionately larger spots in the discal band and a few additional spots. Recorded as having been taken on the Cachar Road, Manipur.

371. **Dophla laudabilis**, ♂ ♀.—Upperside: dark green. Forewing with a crimson spot in cell between the two median black transverse lines; beyond the dark discal band the costal area is broadly greyish-white extending down to vein 6. In the ♀ this patch is very wide extending across the wing to vein 1. On the hindwing it is represented by a much narrower diffuse band. Underside: greyish-green. Hindwing with three crimson spots encircled by black loops near base.

Expanse.—3¾" to 4".

Rare.

Habitat.—Western and Southern India.



FIG. 291.—*DOPHILA LAUDABILIS*, ♀.

brown washed with grey scales. A single crimson spot in cell of forewing and two on hindwing. Hindwing with subterminal dark markings. ♀ larger and much paler than the ♂ on the underside, the grey scaling much extended.

Expanse.—3½" to 4½".

Rare.

Habitat.—Assam, the Khasia Hills, Cachar and Sylhet.

Genus—**EUTHALIA**.

373. **Euthalia lepidea**, ♂ ♀.—Upperside dark brown with obscure black transverse markings across the cells of both wings. ♂ with uniform pale grey marginal area which in the ♀ is duller



FIG. 292.—*DOPHILA DERMA*, ♂.

and darker, this terminal grey band broadening from apex of forewing to the tornus of the hindwing where it covers about one-third of the wing. Underside: ♂ yellowish-brown, ♀ brighter yellow; in both sexes the colours paler on the hindwing, terminal margins of both wings suffused with lilac-grey. Wings crossed by diffuse broad discal and narrower post-discal dark bands.

Expanse.— $2\frac{1}{2}$ " to 3". Very common.

Habitat.—The Himalayas and almost throughout Continental India, Assam, Cachar, Sylhet.



374. **Euthalia appiades**, ♂.—Upperside dark brown with the usual short black transverse

FIG. 293.—EUTHALIA LEPTIDEA, ♀.



FIG. 294.—EUTHALIA
APPIADES, ♂.

lines in the cell, a discal, and a post-discal series of obscure dusky lunular markings. Hindwing with a broad terminal blue band not reaching apex of wing. Underside: dull yellowish; hindwing at base suffused with green, the dark markings as on upperside but more clearly defined. ♀. Upperside pale brown the dark markings larger than in the ♂. Between the discal and post-discal dark markings on the forewing there are dull whitish marks close to the costal margin; no terminal blue band on the hindwing. Underside: yellowish brown; on the hindwing overlaid with greenish-blue

except along the terminal margin; markings as on upperside but more clearly defined, a diffuse lilac spot at apex of forewing.

Expanse.— $2\frac{3}{4}$ " to 3".

Common.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam and Cachar.

Note.—The ♂ of the form *E. adima* has no blue band on the upperside of the hindwing.



FIG. 295.—EUTHALIA
APPIADES, ♀.
Underside.

375. **Euthalia jahnu**, ♂.—Dark brown with a purple gloss, the usual dark cell marks, discal and post-discal lines. Underside: yellowish-brown with the dark marking as on upperside. Hindwing: slightly paler than the forewing. ♀. Upperside: dark brown, markings as in the ♂ but broader, the area between the discal and post-discal bands pale brown with a purplish gloss. Underside:



FIG. 296.—EUTHALIA
JAHNU, ♂.



FIG. 296a.—EUTHALIA
JAHNU, ♀.
Underside.

yellowish-brown, the markings as on upperside; on the forewing an elongate pre-apical and apical spot white; the post-discal band touched with white on its inner margin. Hindwing: the basal half and below vein 4 up to the termen suffused with blue.

Expanse.— $2\frac{3}{4}$ " to 3".

Habitat.—Sikhim, Assam, Cachar.

Rare.

376. **Euthalia kesava**, ♂.—Upperside: dark brown; the cell with the usual black transverse lines and a broad discal band greyish-blue on the forewing. On the hindwing the costal and apical area of a yellowish-red tint, the terminal half of the wing greyish-blue. Underside: rich yellow with the usual cell markings; discal and post-discal bands, prominent in some specimens and very faint in others. ♀. Upperside: paler brown; markings similar to those in the ♂, the broad discal band greyish-brown traversed by a dark zigzag line on both wings. On the forewing the inner margin of the broad pale band is marked with a white spot at base of interspaces 3, 5 and 6, and in some specimens in all the interspaces from 2 to 6. Underside: yellowish-brown with the usual cell and transverse markings;



FIG. 297.—EUTHALIA
KESAVA, ♂.

the white spots of the forewing larger and more clearly defined than on the upperside. On the hindwing the base and dorsal area broadly greyish-blue. The ♀ is considerably larger than the ♂.

Expanse.—2" to 3¼".

Common.

Habitat.—Darjeeling, Sikkim, Bhutan, and throughout the hill ranges of Assam.



FIG. 298.—*EUTHALIA KESAVA*, ♀.

377. ***Euthalia lubentina***, ♂.—*Upperside*: dark greenish-brown. Forewing with a crimson bar across middle of cell and another beyond apex of cell bordered with black, a discal series of small white spots followed by a pre-apical curved row of four similar spots and a subterminal row of obscure dark spots. Hindwing: a black loop near apex of cell, a post-discal series of four or five bright crimson spots bordered with black and a subterminal series of three crimson spots inwardly bordered with black, below which the series is completed by black spots, the tornal angle with a bright crimson spot, the terminal border metallic green. *Underside*: ground colour dark brown. Markings as on upperside but larger and more clearly defined. In addition, on the forewing, the base of costal margin is crimson and there are two black spots at base of wing; on the hindwing four crimson spots at base, the costal margin at base, six post-discal spots, three subterminal apical spots, the dorsum and tornal angle also crimson.



FIG. 299.—*EUTHALIA LUBENTINA*.

♀ larger with more rounded wings, paler. *Upperside*: Forewing: the crimson bands in cell obscure with a broad white band between them; the discal series of white spots very large and irregular in shape. Hindwing: markings as in the ♂. *Underside*: brown, the tornal area of the hindwing bluish-green; markings otherwise as in the ♂.

Expanse.—2½" to 3¼".

Uncommon.

Habitat.—The Himalayas, Sikkim, Bhutan, Assam, Cachar, Bengal and from Bombay southwards through Continental India.



FIG. 300.—*EUTHALIA*
FRANCIÆ, ♂.

378. *Euthalia, franciæ*, ♂ ♀.—Upperside: dark green, both fore and hind wings crossed by a yellowish-white band varying in tint and width according to the season and locality. Forewing with the usual transverse dark lines in the cell, two anterior yellowish-white discal spots and a subterminal series of obscure pale spots. Hindwing with a subterminal obscure pale line bearing on its inner margin large dark spots in the interspaces. Underside: characteristic of the under surface is the delicate blue-green ground colour which is suffused with silver-grey. The band and terminal marking as on upperside but white with a very pale pink tint. Tonal area of forewing with a black patch. ♀ similar to the male but larger with broader transverse band and of a deeper yellowish-white.

Expanse.—3" to 4".

♂ Very scarce.

♀ Fairly common.

Habitat.—Nepal, Sikhim, Bhutan and Assam. At elevations of from about 4,500 to 7,000 feet.

379. *Euthalia phemius*, ♂ ♀.—The sexes very different. ♂. Upper- side brown. Forewing: the basal half and a post-discal band darker brown than the ground colour, two spots at base of interspace 3 and a series of slender lines above them in interspaces 4, 5 and 6, white and two or more pre-apical white dots. Hindwing with a broad pale blue terminal band gradually narrowing towards the apex,

followed by a narrow white band and a slender dark marginal line. Underside: pale yellowish-brown, markings very similar to those on the upperside, both wings with the usual transverse lines and loops in the cell, the terminal blue border of the

hindwing much narrower, the terminal margin of the forewing pale lilac. ♀ paler brown than the ♂, larger and with the wings more rounded. Forewing with an oblique discal white band from costa to near apex of vein 1, and two subapical white spots on costa. Hindwing without a terminal blue band. Underside: paler, the white discal band and pre-apical spots



FIG. 301.—*EUTHALIA*
PHEMIUS, ♂.



FIG. 301a.—*EUTHALIA*
PHEMIUS, ♀.

of the forewing as on the upperside, the terminal border of both wings broadly lilac, base and dorsal area of hindwing, greenish.

Expanse.— $2\frac{1}{2}$ " to $3\frac{1}{4}$ ".

♂ Not common.

♀ Scarce.

Habitat.—The Himalayas, Sikhim, Bhutan and throughout the hills of Eastern Bengal and Assam. Fairly common in the Khasia Hills.



FIG. 302.—EUTHALIA TELCHINIA, ♂.



FIG. 302a.—EUTHALIA TELCHINIA, ♀.

380. **Euthalia telchinia**, ♂.—Upperside: very dark brown, the hindwing with a bright metallic blue terminal band which is continued on the forewing for a short distance above the tornus. Underside: rich brown, the usual dark transverse cellular lines and loops and both fore and hind wings with obscure lunular dark discal and post-discal transverse bands. ♀ Forewing with a series of dull white discal spots, a post discal oblique and terminal dark band, but no terminal blue band to the wings. The rainy-season form as shown in the illustration of the underside, fig. 302b is much paler yellow and with prominent large white discal spots on the forewing. It is also much larger than the dry-season form of the ♀.

Expanse.—3" to 4".

Rare.

Habitat.—Nepal, Sikhim, Bhutan, Assam and Cachar.

More plentiful in the Khasia Hills, Assam. April to October, not above 3,000 feet.



FIG. 302b.—EUTHALIA TELCHINIA, ♀.

Underside.

Rainy-season form.

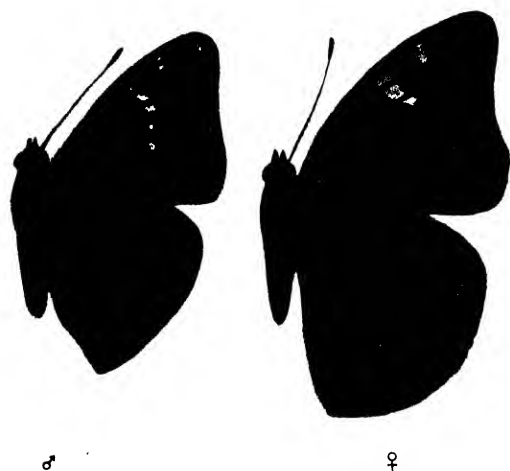
381. **Euthalia garuda**, ♂.—Upperside: dark brown with the usual loop-like marks in the cell and discal dark band on both wings. Forewing with four to five small white spots on the outer margin of the discal dark band followed by two pre-apical white dots. Both wings with a subterminal series of dark spots. Underside: paler brown, the markings as on upperside, the terminal border with a pale lilac band not reaching the apex, the margin narrowly dark brown. ♀ larger and much paler

than the ♂, the discal white spots being elongate and larger. The ground colour of the underside more yellow, the markings larger and duller than in the ♂.

Expanse.—2" to 3". Common.

Habitat.—The Himalayas at lower elevations, Assam, Cachar and Southern India.

Note.—A variable insect as regards the number of discal white spots which may be reduced to two or are altogether absent.



♂
FIG. 303.—*EUTHALIA GARUDA*.

white dots four in number and the apex of the wing touched with lilac-white. Underside: basal half dull pale-yellowish shading into a browner yellow towards the terminal margins. Forewing with a small oval mark below the cell at base

382. ***Euthalia jama***, ♂.—Upper-side: dark brown, both sexes somewhat similar in markings to *E. garuda*, the discal and post-discal dark bands of the forewing inclined obliquely inwards, the discal white markings as streaks, the pre-apical



FIG. 304.—*EUTHALIA JAMA*, ♂.



FIG. 304a.—*EUTHALIA JAMA*, ♀.

of interspace 1. Hindwing: basal and cellular area with four dark loops and a post-discal series of small dark spots. ♀ very similar as to the markings but larger and paler. On the underside the apices of both wings touched with pale lilac.

Expanse.— $2\frac{1}{2}$ " to 3".

Uncommon.

Habitat.—Sikhim, Bhutan and the hills of Assam.

383. **Euthalia anosia**, ♂.—Easily distinguished from other Euthalias by the ashy-grey colour of the upperside and the pale greenish-grey of the underside. The basal area, apex and terminal margin of the forewing dark brown and both wings with a post-discal series of black, inwardly pale greenish-bordered spots. Hindwing with the costal margin broadly and the dorsum pinkish-brown. ♀ larger than the ♂. Forewing with a curved discal row of outwardly-pointed large white spots from interspace 2 to costa. Hindwing very similar to that of the ♂. Underside: nearly as above but somewhat paler, ashy-grey, and clouded with brown.

Expanse.— $2\frac{3}{4}$ " to 3".

Rare.

Habitat.—Sikhim, Assam, Cachar and Sylhet.



FIG. 305.—*EUTHALIA ANOSIA*, ♀.

384. **Euthalia nais**, ♂ ♀.—Upperside: both sexes reddish-yellow, the fringe of both wings alternated black and white. Forewing: a bar at apex of cell with a large spot below it at base of interspaces 2 and 3, a broad oblique discal bar, a post-discal lunular band and terminal border black. Hindwing: a large black spot below middle of costa a post-discal series of small black spots and terminal border broadly black. Underside: brownish-yellow. Forewing: two spots at base of cell and a line beyond crimson, edged with black, a black patch at base of interspaces 2 and 3 as on upperside, a dark brown oblique discal band from costa to vein 4 outwardly bordered by a series of large whitish spots and a subterminal series of lunules. Hindwing: a crimson line at base of costa

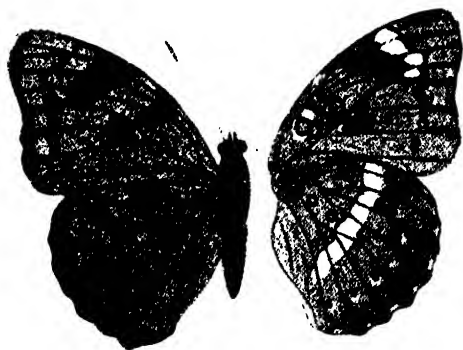


FIG. 306.—*EUTHALIA NAIS*.

and two crimson black-bordered spots in cell, a discal white band often broken up into spots and a post-discal series of small black spots outwardly margined with pink. Head, thorax and abdomen above reddish-yellow and brownish-pink below. ♀ slightly larger than the ♂.

Expanse.—2" to $2\frac{1}{2}$ ".

Not common.

Habitat.—The Himalayas and Sikhim in the foot hills. The plains of India and Southern India. More common in the plains than in the hills.

Genus.—**PARTHENOS.**

385. **Parthenos gambrisius**, ♂ ♀.—Upperside dark olive-green. Forewing with two broad black streaks from base, a transverse black line across cell followed by a white bar and two white spots beyond, a broad oblique discal band formed of large white spots bordered with black from costa, just before the apex, to interspace 1, terminating in a bluish patch. Finally, post-discal and terminal black bands. Hindwing: a basal and subbasal transverse black streak, a transverse series of black spots decreasing in size anteriorly and two subcostal white spots. The discal area is marked with dark brown paired streaks in the interspaces, confluent outwardly, followed by a post-discal series of triangular dark spots and a terminal broad dark band. Underside: pale bluish green, the black streaks from base of wings wanting, the markings otherwise as on upperside but less well defined. Head, thorax and abdomen olive green barred with black; beneath whitish.

FIG. 307.—**PARTHENOS GAMBRISIUS.***Expanse.*—4" to 4½".

Uncommon.

Habitat.—Eastern Bengal, Assam, Cachar and Manipur.

Note.—*Parthenos virens* is the Southern India form, very much resembling *P. gambrisius* but of a bronze green on the upperside and pale greenish grey on the underside fading to ashy grey towards the terminal margin of the forewing.

Genus.—**MODUZA.**

386. **Moduza procris**, ♂ ♀.—Upperside rufous brown, base of both wings with short transverse black lines, a broad discal white band across both wings on a dusky black background, and two pre-apical white spots on forewing. The terminal border of forewing dusky black inwardly formed of conical shaped spots and traversed by two slender lunular pale lines. The hindwing with a post-discal series of black spots followed by an outer series of black spots, a sub-terminal lunular black line and terminal black band. Underside with similar markings but more clearly defined. The base of forewing and basal two-thirds of hindwing pale blue, the marginal lines on both fore and hindwings touched with white in the interspaces. Body above rufous, beneath bluish white.

FIG. 308.—**MODUZA PROCRIS, ♂.**

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—The Himalayas, Assam, Cachar, Sylhet and Peninsular India.

Genus.—*LIMITIS*.

387. ***Liminitis zayla***, ♂ ♀.—Upperside olive-brown. Forewing: two or three round loop-like black marks at base of interspace 1, the cell crossed by two reddish brown bars bordered by black lines, a broad yellow discal band and a yellow streak along costa towards apex of wing, a post-discal dark band followed by a ferruginous-red band traversed by a series of brown lunules, a subterminal and terminal dark line. Hindwing: a discal white band in continuation of the band on the forewing followed by a dark band darkening outwardly, a post-discal series of ferruginous-red lunules outwardly bordered with dark brown, subterminal dark brown and pale lines and terminal margin as on the forewing. Fringe of both wings white the apices of the veins dark brown. Underside: markings much as on upperside but dull and much paler the terminal border greyish purple. On the hindwing the base up to the white discal band shining bluish-green.



FIG. 309.—*LIMITIS*
ZAYLA, ♂.

Expanse.— $3\frac{1}{2}$ ".

Uncommon.

Habitat.—Sikhim, Assam, the Khasia and Naga Hills.

388. ***Liminitis daraxa***, ♂ ♀.—Upperside dark brown. Both wings with the usual basal black markings but very faint, a broad greenish white discal band the anterior portion formed of three detached spots, the apical spot very small; a post-discal transverse black band followed by a series of black spots more distinct on the hindwing; a subterminal black band on the hindwing only and a terminal band. Fringe alternated black and white; a red patch on the tornus of hindwing surrounding the subterminal two black spots of the post-discal series. Underside: reddish, the basal markings darker red between which the colour is pale lilac, the dorsum of hindwing also suffused with lilac; the discal band almost white; the post-discal spots small and placed on a lilac ground; subterminal and terminal red lines with a pale line between them.



FIG. 310.—*LIMITIS*
DARAXA, ♂.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas, Nepal. Bhutan, Assam. Cachar, Sylhet, the Khasia and Naga Hills.



FIG. 311.—*LIMINITIS DUDU*, ♂.

389. ***Liminitis dudu***, ♂ ♀.—Upperside dark brown. Forewing: cell crossed by a medial and an apical dark red band bordered by black lines, the former extended into interspace 1. Both wings crossed by a broad discal white band, outwardly diffuse at its apex on the forewing and beyond which are two or three white spots. On the forewing the costa is touched with red before the apex, the terminal area with a post-discal series of dark spots and a subterminal dark line. On the hindwing are two rows of post-discal dark spots and a subterminal dark line. Tonal area marked with red. Underside: pale lilac washed with silvery white, the markings as on upperside but paler and diffuse on the terminal area of the wings. Apex of forewing touched with yellow and at the base of the hindwing three silvery spots.

Expanse.— $2\frac{3}{4}$ " to 3".

Uncommon.

Habitat.—Sikhim, Nepal, Assam, the Naga and Khasia Hills.

390. ***Liminitis zulema***, ♂ ♀.—Similar in size and markings to *L. dudu*, but the discal white band is narrower and the apical spots of this band on the forewing well separated; beyond are two subapical white spots close together, the terminal area of both wings with two rows of dark spots the ground colour between them dark red, finally a subterminal and terminal narrow dark line. Underside with similar markings; basal area and cell of forewing greyish white, basal area and dorsum of hindwing bluish grey, the post-discal dark spots of the terminal area of both wings bordered by silver-grey lines and extending to the dark terminal border.

Expanse.— $2\frac{3}{4}$ " to 3". Rare.

Habitat.—Sikhim, Bhutan, the Hills of Assam.

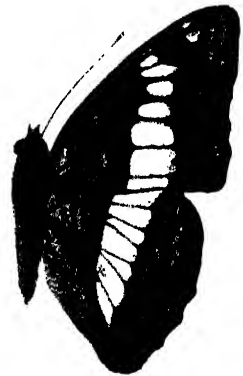


FIG. 312.—*LIMINITIS ZULEMA*, ♂.



FIG. 313.—*LIMINITIS TRIVENA*, ♀.

391. ***Liminitis trivena***, ♂ ♀.—Upperside brownish black, base of wings dusted with greyish or yellowish scales, cell of forewing with a white pre-apical transverse bar and sometimes with one or more basal white spots. Both wings with a broad white discal band curved inwards towards the costa on the forewing, and three or four pre-apical white spots, the terminal border of both wings with the ground-colour paler, bearing on the forewing a

subterminal series of dark spots and on the hindwing a post-discal series of dark lunules and a subterminal dark line. Underside bright yellow, the white markings as on upperside but lined inwardly and outwardly with greyish black; the post-discal spots of the upperside absent on the hindwing and represented on the forewing by black spots in interspaces 1, 2 and 3. Slender black terminal lines as on the upperside.

Expanse.— $2\frac{3}{4}$ " to 3".

Rare.

Habitat.—North-West Himalayas, Kashmir, Kulu.

392. **Liminitis ligyes**, ♂ ♀.—Very similar to *L. trivena*, but having a much narrower discal white band, the spots composing the band well separated on both wings. In most specimens the post-discal series of black spots is margined outwardly with red, in some it is absent, while in the *Var. hydaspes* there is an additional row of red dots on the inner side of the post-discal series of black spots. The underside is of a darker yellow than in *L. trivena*.

Expanse.—3".

Rare.

Habitat.—North-West Himalayas, Kashmir, Chitral.

Genus.—LEBADEA.

393. **Lebadea martha** ♂ ♀.—Upperside tawny red. Forewing: the cell and basal area crossed by fine black lines, the apex of cell by a faint white spot. Both wings crossed by a transverse discal white band followed on the forewing by a series of white lunules and on the hindwing by a series of black lunules and a subterminal sinuous fine black line on both wings. Apex of forewing white. Underside: dull brown the base of wings dusted with greenish-white scales; the markings as on upperside but diffuse, the subterminal line margined with white.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Eastern Himalayas, Sikkim, Bhutan, and throughout Assam and Cachar.



FIG. 314.—LEBADEA MARTHA, ♂.

Note.—Very variable in the width of the white discal band and the ground colour is also very variable, the forewing being in some specimens entirely brown.

Genus.—AUZAKIA.

394. **Auzakia danava**, ♂.—Upperside brown, the terminal half of wings paler. The costa of forewing from base to apex dark olive green, the tornal area



FIG. 315.—AUZAKIA
DANAVA, ♂.

of the hindwing, suffused with green. Forewing: the basal area below the cell, two broad bands across the cell and a patch beyond its apex very dark brown followed by a pale transverse band, a discal dark band and a subterminal narrow dark band; between the two latter a broad pale band bearing a series of faintly defined dark transverse lines. Hindwing similarly banded. Underside paler brown, suffused with lilac, cell of forewing crossed by two lilac bands bordered with dark lines, the base of hindwing with loop-like dark marks with pale centres, a lilac discal band on both wings followed by a diffuse yellowish post-discal narrow band. Forewing with a purplish-white patch on apex, the hindwing with a broad subterminal lilac band bearing a series of lunular obscure brown marks. ♀ similar to that of the ♂ but

fore and hindwings crossed by broad white diffuse discal and post-discal bands, the post-discal band on both wings bearing a series of detached dark lunules; the dark interspace between the two bands paler and suffused with green on its inner half. Underside as in the ♂ but very much paler.

Expanse.— $3\frac{1}{2}$ " to $3\frac{3}{4}$ ".

Rare.

Habitat.—The Himalayas, the Hills of Assam and the Naga Hills.

Fairly common in the Naga Hills.

395. **Auzakia austenia**, ♂.—Very similar to *A. danava*. Upperside: cell of forewing with five transverse dark brown lines and one beyond apex of cell; cell of hindwing with three similar lines and one beyond apex of cell. A pale brown discal band crossing both wings followed by a post-discal and subterminal pale band, the latter traversed by a series of narrow dark brown lunules which on the apical area of forewing are slenderly margined on both sides by white. Fringe of wings white alternated with brown. Underside paler brown, the basal area of both wings washed with lilac, the dorsal margin of hindwing greenish blue. ♀ very similar but of a paler brown with the discal and post-discal transverse bands paler. Underside suffused throughout with lilac, the post-discal band on the hindwing outwardly bordered with a suffusion of pink.

Expanse.— $3\frac{1}{2}$ " to $3\frac{3}{4}$ ".

Rare.

Habitat.—The Khasia Hills, Assam, Cachar.

Genus.—PANTOPORIA.

396. **Pantoporia inara**, ♂.—Upperside black. Forewing: a yellowish streak in cell ending in a white detached spot, a transverse discal band formed of white spots interrupted in interspace 3, a subterminal dark yellow band followed by a dark line and terminal pale border. Hindwing similarly marked, the discal white band of the forewing continued as a subbasal band, followed by a dark broad discal band, the orange-yellow post-discal band broad. Underside: yellowish brown, the white band on both wings as on upperside. On forewing the streak in cell is white and divided into spots, in the terminal area posteriorly the spots are whitish bordered with dark brown. On the hindwing a series of dark spots on the discal brown band, the subterminal band posteriorly whitish-pink, anteriorly yellowish. ♀ Upperside paler orange-yellow, the discal band broader the subterminal band on forewing reduced to a tornal and two or three pre-apical spots. Underside bright yellow, the markings pinkish white suffused with yellow, the brown blotches large and prominent. The base of abdomen crossed by a white bar.



FIG. 316.—PANTOPORIA INARA, ♂.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—Sikhim, Bhutan, Nepal and throughout the Hills of Assam; also in Southern India.

397. **Pantoporia kanwa**, ♂.—Upperside black. Forewing: a narrow white streak in cell followed by a long, pointed, triangular spot beyond apex of cell, a curved discal white band formed of well separated spots, no spot in interspace 3, and that in interspace 4 very small; an inner and an outer subterminal dusky white line. Hindwing: a subbasal white band widening from dorsum to costa as also a narrow post-discal band, finally a pale subterminal diffuse line. Underside greyish, markings as on upperside but broader and not so sharply defined. ♀ blackish brown on upperside and pale brown on underside, markings broader than in the ♂. In both sexes the thorax anteriorly and the base of the abdomen with a transverse bluish-white bar, body beneath bluish-white.



Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Uncommon.

Habitat.—Assam, Cachar.

398. **Pantoporia cama**, ♂.—Upperside very dark brownish black. Forewing with a dull reddish streak in cell, a discal white band interrupted in interspaces 3 and 4, an orange pre-apical spot, post-discal and subterminal pale lines. Hindwing with the discal band of the forewing

FIG. 317.—PANTOPORIA CAMA, ♂.

continued as a subbasal complete white band; a post-discal and terminal pale band. Underside: rich yellow; the markings as on the upperside but bluish white; a white black-centred spot at base of interspace 1, a dark chestnut patch on tornal area. On the hindwing interspace 7 white, a discal series of dark chestnut spots, the dorsal margin broadly suffused with bluish. On both wings the terminal markings are suffused with bluish. Abdomen with a bluish white bar across the base; body beneath, white. ♀ markings as in the ♂ but all orange-yellow with the exception of the subterminal pale bands. On the hindwing the subterminal band broad and complete. Underside: markings pinkish white and blurred, the dorsal margin of hindwing and the thorax beneath dusted with metallic blue scales.



FIG. 317a.—*PANTOPORIA*
CAMA, ♀.

Expanse.— $2\frac{3}{4}$ " to 3".

Common.

Habitat.—The Himalayas, Sikkim, Assam, and Cachar.

399. *Pantoporia selenophora*, ♂.—Upperside black. Forewing with the streak in cell deep red, twice divided, the apical portion dusky white. On both wings the discal and terminal markings white; fringe black alternated with white. Underside bright chestnut-red, the markings as on upperside but all white, interspace 8 at base white, with a dark chestnut-red loop below it in interspace 7 and very dark post-discal blotches on the forewing. On the hindwing a series of very dark chestnut-red marks between discal and post-discal bands; dorsal margin of hindwing broadly blue. Body beneath bluish white. ♀ brownish black with white and pale markings more or less as in the ♂. On the hindwing a post-discal series of large conical spots and a broad subterminal pale line. Underside as in the ♂, the white markings broader the ground colour not so bright. Abdomen with a white transverse band at base which is wanting in the ♂.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—The Himalayas, Assam, and Southern India.

400. *Pantoporia zeroa*, ♂.—Upperside resembles *P. selcnophora*, the streak in cell being more obscure, the three white spots of the anterior portion of the discal band on the forewing are more obliquely placed and are sometimes brownish, not white. On the underside the ground colour is darker than in *P. selonophora*, the cell streak and transverse pre-apical spots on the forewing and the post-discal and subterminal lines on the hindwing, are lilac. ♀ very different. Upperside brown with dull white markings. Forewing: the streak in cell long and



FIG. 318.—*PANTOPORIA*
ZEROA, ♂.

spot, discal band very oblique and narrow posteriorly extending in interspace 3 to the inner subterminal band, the three spots of the anterior portion very oblique. Hindwing: the subbasal band dirty white, the postdiscal very diffuse and the subterminal pale brown. Underside yellowish brown, the markings dull as on the upperside, a series of dark grey blurred marks from near apex of forewing to dorsal margin of hindwing, the dorsal margin of hindwing bluish. Body beneath white, suffused with pale blue. Abdomen above at base with a whitish bar.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat:—Sikhim, Bhutan, Assam, Cachar.



FIG. 318A.—PANTOPORIA
ZEROA, ♀.

401. **Pantoporia opalina**, ♂ ♀.—Upperside brownish black. A white streak in cell formed of 3 spots on forewing with a triangular white spot just beyond apex of cell, a strongly curved series of discal white spots and a pre-apical white spot. Hindwing with a broad subbasal and a narrower postdiscal white band not quite reaching either the costal or dorsal margins. Both wings with pale subterminal narrow bands, the fringe white alternated with dark brown. Underside: reddish-brown the posterior half of wings duller, the hindwing suffused with pale lilac, the white markings as on upperside but broader, the dorsal margin of hindwing greenish-blue. ♀ is paler brown than the ♂.



FIG. 319.—PANTOPORIA
OPALINA, ♂.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas and Assam.

402. **Pantoporia ranga**, ♂ ♀.—Upperside black suffused lightly with bluish. Forewing: the cell with a white spot in the middle and another larger spot at apex; also in the cell, beyond its apex and at base of interspace 1 are some obscure blue spots; a discal series of white spots followed by an inner and outer subterminal line of transverse white marks dusted with dark scales. Hindwing: a subbasal white band, a postdiscal series of white spots dusted with dark scales and a subterminal line of pale spots. Fringe of both wings alternate black and white. Underside dark brown, blotched with black between the white markings, these latter all pure white, larger and more clearly defined. Dorsal margin of hindwing pale blue. Thorax glossed with



FIG. 320.—PANTOPORIA
RANGA, ♂.

blue, the abdomen with a series of lateral white spots; body beneath white, glossed with pale blue. ♀ dark brown suffused with bluish.

Expanse.— $2\frac{1}{2}$ " to 3".

Fairly common.

Habitat.—Sikhim, Bhutan, Assam, Southern India, Kanara and the Nilgiri Hills.

Genus.—ATHYMA.

403. **Athyma perius**, ♂ ♀.—Upperside ♂ black, ♀ dark brown, with white markings. Forewing: a streak in cell twice divided, a large spot beyond, a discal band formed of separated spots, a postdiscal series of narrow transverse spots and a subterminal line of obscure small lunules. Hindwing: a subbasal band traversed only by the veins, a postdiscal series of spots inwardly margined by round black spots and a subterminal line of obscure small lunules. Underside yellow, the white markings as on the upperside but heavily margined with black; basal and pre-apical patches in interspace 1 of forewing dull black; postdiscal band on hindwing margined inwardly with pale blue bearing a series of black spots; both wings with terminal narrow black band; fringe white alternated with brown. Thorax with bands of bluish spots, abdomen barred with bluish-white. Body, beneath pure white. In the ♀ the abdomen has a double lateral row of minute black dots.



FIG. 321.—ATHYMA PERIUS, ♂.

Expanse.— $2\frac{1}{2}$ " to 3".

Common.

Habitat.—The Himalayas and throughout the hills of Western, Central and Eastern India: also Southern India.

404. **Athyma asura**, ♂ ♀.—Upperside black with white markings. Forewing: a slender streak in cell, undivided, and a small spot beyond it; a discal band formed of not very large spots well separated, directed obliquely outwards about the middle; beyond this a postdiscal series of short transverse lines and an obscure pale subterminal lunular line. Hindwing: a subbasal narrow band, a postdiscal series of roundish spots centred with black, and a broad obscure subterminal band. Underside: chestnut brown, the markings as on upperside but broader, the terminal border with prominent white lunules. On the forewing in interspace 1 a black spot at base and a black pre-apical patch. On the hindwing an additional white bar at base; the dorsal area bluish grey. Fringe of wings white.



FIG. 322.—ATHYMA ASURA, ♂.

alternated with black. Thorax glossed with greenish, abdomen with a pale blue band at base, body beneath white.

Expanse.—3" to 3¼".

Fairly common.

Habitat.—The Himalayas, Assam, Cachar.

405. **Athama pravara**, ♂ ♀.—Upperside dark brown with white markings. Very similar to *A. asura*. Forewing: streak in cell long and club-shaped, a discal band of well separated spots, a postdiscal series of slender short lines and a pale subterminal line; the interspaces between the white markings shaded with jet-black. Hindwing: a subbasal band, a postdiscal band of quadrate spots and a pale subterminal band. Underside: pale brown, the markings as on upperside but broader. On the forewing are dark brown blotches between the white markings. On the hindwing between the subbasal and postdiscal bands there is a row of dark brown blurred spots; dorsal margin of hindwing broadly greyish. Body beneath, yellowish white.

Expanse.—2½" to 2¾".

Uncommon.

Habitat.—Assam and Cachar.

406. **Athyma jina**, ♂ ♀.—Upperside black with creamy-white markings. Forewing: streak in cell long and wide, club shaped, a discal band of complete spots not interrupted, the postdiscal band widely interrupted composed of a short line in interspace 1 and four pre-apical spots placed in a curve; an obscure subterminal pale band. Hindwing: a subbasal fairly broad band, a postdiscal band of quadrate or conical spots decreasing in size towards the costa, and a subterminal pale lunular band. Underside bright chestnut markings as on upperside but broader; interspace 1 and most of 2 on forewing brown; interspace 8 on hindwing white. Base of abdomen with a white band; beneath, the body is white.

Expanse.—3" to 3¼".

Uncommon.

Habitat.—Sikhim and Nepal.

Genus.—NEPTIS.

407. **Neptis eurynome**, ♂ ♀.—Upperside black with white markings. Forewing: a wide streak in cell, square at apex and a prominent large triangular spot beyond apex of cell; a discal series of spots well separated, and a postdiscal series of small spots, incomplete. Hindwing: a subbasal band, discal and subterminal obscure pale lines; a postdiscal series of well separated square spots. Underside: golden brown to dark chestnut, the white markings as on upperside defined by black lines. Forewing: interspace 1 shaded with black, some narrow white markings on both sides of the postdiscal series of small spots. Hindwing: a white streak on costal margin at base and another streak below it, the discal and subterminal pale lines of the upperside replaced



FIG. 323.—NEPTIS EURYNOME, ♂.
(Underside.)

by narrow white lines narrowly margined with black. Body beneath, dusky white. Above is the description of the dry-season form. The wet-season form has the white markings narrower with broader black margins, the ground-colour is darker.

Expanse.—2" to 2½".

Common.

Habitat.—Throughout Assam and Continental India.



FIG. 324.—NEPTIS COLUMELLA, ♂.

408. **Neptis columella**, ♂ ♀.—Upperside black with white markings. Forewing: the streak in cell widest at apex, notched pre-apically, a large triangular spot beyond, well separated, the discal band formed of spots in pairs, the postdiscal series not all clearly defined, margined on both sides with deep black. Hindwing: costal margin broadly greyish-brown, subbasal band not extending to the costa, a series of postdiscal spots and a pale subterminal line. Fringe white alternating with black. Underside greyish-brown, the white markings as on the upperside but broader, the terminal area of both wings with pale lunular transverse white markings. Body, beneath white. In the wet-season form the white markings generally narrower and the ground-colour duller.

Expanse.—2½" to 2¾".

Common.

Habitat.—Sikhim, Bhutan, Assam and Cachar; also Western and Southern India

409. **Neptis jumbah**, ♂ ♀.—Upperside black with white markings similar to *N. columella*, the spaces between the veins deeper black, the white markings tinged with very pale bluish green; the posterior two spots of the discal series on the forewing about equal in size; the postdiscal series of white lunules on the hindwing sometimes diffuse and forming a narrow pale band. Underside: paler than in *N. columella*, the spaces between the veins much darker, a discal transverse series of large dark brown spots, the postdiscal and subterminal markings on both wings diffuse. Body above black, beneath white.

Expanse.—2½" to 2¾".

Common.

Habitat.—Bengal. The Nilgiris, Canara, Travancore in Southern India.



FIG. 325.—NEPTIS JUMBAH, ♂.
(Underside.)

410. **Neptis magadha (Khasiana)** ♂ ♀.—Upperside black with white markings. Forewing: streak in cell very slender, a triangular spot beyond its apex, the discal series of spots in pairs as in *N. columella* but very small, the spot

in interspace 2 the largest, a postdiscal series of small white spots and subterminal pale markings. Hindwing: the subbasal band very narrow, discal and subterminal pale lines indistinct; a series of small round postdiscal spots. Fringe white alternating with black. Underside: purplish brown, the markings pale blue; the discal, postdiscal and subterminal transverse markings very distinct; the base of costal margin of hindwing broadly white. Body, beneath whitish, the abdomen with a white lateral stripe.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—Bhutan, Assam, Cachar.



FIG. 326.—NEPTIS
KHASIANA, ♂.

411. **Neptis mahendra**, ♂ ♀.—Upperside dull black, the markings pure white and as in *N. khasiana* but larger. Forewing: streak in cell long and divided near apex, a triangular spot beyond, a discal series of long shaped spots and a postdiscal transverse series of small spots, not always complete. Hindwing: subbasal transverse band fairly broad, widening slightly towards the costa in ♂, broader and of even width in ♀. A postdiscal series of prominent squarish spots, the discal and subterminal pale obscure lines more clearly defined in the ♀ than the ♂. Underside: golden brown, the white markings as on upperside but broader, the obscure pale markings of the upperside replaced by more clearly defined white markings. Fringe white alternating with black. Body, beneath greyish. In the wet-season form the white markings are narrower.

Expanse.—2" to $2\frac{1}{4}$ ".

Habitat.—North-West Himalayas.

412. **Neptis yerburii**, ♂ ♀.—Closely resembles *N. mahendra*, and *khasiana* but the triangular spot beyond apex of cell on forewing more elongate and pointed at apex, the posterior three of the discal series of spots shorter and more obliquely placed, the postdiscal series of small spots more complete. In some specimens the markings are cream-coloured. Underside much paler than in *N. mahendra*.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Habitat.—Sikhim, Assam, Naga Hills.



FIG. 327.—NEPTIS
SOMA, ♂.

413. **Neptis soma**, ♂ ♀.—Upperside black with white markings; a streak in cell and a narrow elongate spot beyond it; discal series of spots small and well separated; postdiscal series of spots complete. Hindwing: subbasal band narrow, discal and subterminal pale lines and a postdiscal series of spots, sometimes only indicated by a pale band. Underside: chocolate brown, the markings as on upperside but slightly blurred; forewing: some linear white markings on either side of the postdiscal series of spots,

the wing below vein 1 pale greyish-brown. Hindwing: the discal and subterminal pale markings of the upperside represented by narrow white bands, with the addition, in the ♀ of a terminal white band. Body beneath dusky white.

Expanse.—2" to 2½".

Very common.

Habitat.—The Himalayas, Assam, Cachar and Southern India.

414. **Neptis sankara**, ♂ ♀.—Upperside dusky black with white markings.



FIG. 328.—NEPTIS
SANKARA, ♂.

Forewing: streak in cell long and very pointed at apex; the discal series of spots complete and elongate separated only by the veins, the spot in interspace 4 very small; a postdiscal series of jet-black lunular spots and a subterminal dull white line. Hindwing: a subbasal rather broad band, an obscure pale discal line, a postdiscal narrow band and a fairly broad subterminal pale line. Underside: purplish brown, the white markings as on upperside, their margins diffuse. On the hindwing, in addition, a short streak at base on the costal margin followed by a longer and broader streak; a discal series of purplish-brown spots. Fringe white alternated with black. Body beneath, whitish. In dry-season forms

the ground-colour is paler and the white markings broader.

Expanse.—2¼" to 2½".

Common.

Habitat.—The Himalayas, Nepal, Sikkim, Bhutan and throughout the hills of Assam.

415. **Neptis cartica**, ♂ ♀.—Upperside dark brown with somewhat dull white markings. Forewing: streak in cell long and narrow, joined on to the triangular spot beyond, the posterior spots of the discal series very obliquely placed, the anterior spots separated; a postdiscal series of spots lunular and pale brown. Hindwing: basal band white, discal and subterminal narrow bands pale brown. Underside: dark brown, the markings as on upperside but broader and whiter. Forewing: the costa at base yellowish. Hindwing: the costal margin at base broadly white, the discal narrow brown band bordered outwardly by a series of very dark brown markings in the interspaces; the subterminal band white and much broader than on the upperside. Body above, dark brown, beneath whitish.



FIG. 329.—NEPTIS
CARTICA, ♂.

Expanse.—2¼" to 2½".

Habitat.—Sikkim, Nepal, Assam.

416. **Neptis narayana**, ♂ ♀.—Upperside black, with white markings in the ♂, the markings in the ♀ slightly tinged with yellowish. Forewing: streak

in cell long and clubbed, indented anteriorly before the apex; a small costal spot above apex of streak; the discal spots in pairs well separated, the anterior spots long and obliquely placed; an obscure subterminal line pale anteriorly, white posteriorly. Hindwing: subbasal band of even width and fairly broad; postdiscal band with uneven margins, followed by a very obscure subterminal pale line. Underside: yellowish golden brown, the markings as on upperside. On the hindwing there are in addition the following faint lilac markings: a streak at bases of interspaces 6 and 7, a discal irregular, a subterminal curved transverse narrow band and a narrow border to postdiscal band. Body above, black; beneath greyish-white, the abdomen touched with yellow.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—North-West Himalayas.

Note.—The race *N. nana*, found in Sikhim and Bhutan has the ground-colour darker, the markings cream-colour. Underside ground-colour dark brown but the margins of those on the forewing yellowish; the lilac markings on the hindwing broader and clearer.

417. **Neptis zaida** ♂ ♀.—Upperside brownish black, the markings cream-colour. Forewing: streak in cell broad and long, not indented anteriorly, very pointed at apex, extending into base of interspace 3, the discal markings represented by two lower obliquely placed broad patches and an anterior broad bar from beyond middle of costa followed by a broad obscure pale subterminal transverse line. Hindwing: a broad subbasal and a narrower postdiscal band; a faint pale subterminal line. Underside: pale yellowish, the markings as on upperside but broader and whiter. Forewing: bases of interspaces 1, 2 and sometimes 3, dark brownish black. Hindwing: a pale narrow discal transverse band in addition to the markings as on the upperside. In some specimens the bands bordered faintly on the inner side with lilac. Body beneath, greyish white. In the wet-season form the cream-white markings are of a darker shade of yellow, and the ground-colour of the underside is darker, of a dull chestnut-brown.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—Murree to Sikhim in the Himalayas.

418. **Neptis harita**, ♂ ♀.—Upperside rich brown with dusky pale markings. Streak in cell not very long, notched pre-apically, an obliquely placed subcostal lunule, the spots of the discal series obscure followed by two transverse series of irregular dark brown lunular markings, the outer series bordered inwardly by a zigzag row of pale markings and outwardly by a pale line. Hindwing: subbasal band narrow followed by a discal pale ill-defined line, bordered outwardly by a dark brown band; a postdiscal narrower lunular band, margined on both sides by broad pale lines. Underside paler brown, the markings dull and slightly purplish; the spaces between the veins with dark brown markings. Body above, dark brown, paler beneath.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Fairly common.

Habitat.—Eastern Bengal, Cachar, Assam.

419. **Neptis vikasi**, ♂ ♀.—Upperside dark brown with dusky-white markings.



FIG. 330.—NEPTIS
VIKASI, ♂.

Cell streak long, the discal series of spots very faint, the post-discal series consists of short lines in the interspaces. Hindwing: subbasal and postdiscal bands narrow, the discal and subterminal bands faint. Underside: purplish-brown, the markings as on upperside but broader and whiter tinged with pale purple, the discal pale band on the hindwing outwardly bordered by a broad band of dark brown. Body, paler beneath than above which is dark brown.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Fairly common.

Habitat.—Sikhim, Bhutan, Assam and Cachar.

420. **Neptis radha**, ♂ ♀.—Upperside black with orange-yellow markings. Cell streak long, slightly curved downwards at apex, a spot below its apex at base of interspace 3 and two small streaks above it on the costa. The discal series of spots large, the posterior two and the anterior spots obliquely placed, followed by a pale transverse subterminal line. Hindwing with a subbasal and postdiscal transverse band; a subterminal obscure pale line. Underside dark chestnut-brown, the markings as on the upperside but paler and broader; on the forewing the pre-apical area and a postdiscal line, on the hindwing the base of the cell, the bases of the interspaces above it and the terminal third of the wing with a zigzag discal narrow band overlaid with lilac scales. Body above black, beneath dusky grey. In the ♀ the orange-yellow markings are paler and broader than in the ♂.



FIG. 331.—NEPTIS RADHA, ♂.

Expanse.—3" to $3\frac{1}{4}$ ".

Fairly common.

Habitat.—Nepal, Sikhim, Bhutan, Assam and the Naga Hills.

421. **Neptis ananta**, ♂ ♀.—Upperside black with dark orange markings,



FIG. 332.—NEPTIS
ANANTA, ♂.

broader and paler in the ♀ than in the ♂. Very similar to *N. radha*, but smaller. Forewing: cell streak narrower and no spot below the apex at base of interspace 3. Underside of a redder chestnut tint than in *N. radha*, the markings paler and diffuse, the large middle spot only of the discal series on the forewing tinged with orange; the subbasal band on the hindwing white, the postdiscal band pale yellowish, very often margined with lilac. The dry-season form has the markings on the upperside broader and pale yellow, not orange. On the underside the ground colour is yellowish brown.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas, Sikhim, Assam, Naga Hills.

422. **Neptis namba**, ♂ ♀.—Very similar to *N. ananta*, but both upper and undersides much darker. The yellow bands of the upperside are broader and darker, and on the underside the ground-colour is a richer brown-red.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Uncommon.

Habitat.—Manipur, Naga Hills and North Cachar Hills at low elevations.

423. **Neptis miah**, ♂ ♀.—Upperside black with orange-yellow markings. Forewing: cell streak narrow, indented anteriorly before the apex, discal series of spots large, followed by a pale subterminal line. Hindwing: with the usual subbasal and post-discal bands. Underside: purplish-brown, the markings as on the upperside but pinkish-white slightly tinged with yellow. On the forewing the discal series of spots margined outwardly by a pale lilac line, the subterminal line also lilac. On the hindwing, the costa at base, a streak in base of cell, discal and subterminal narrow transverse bands pale lilac-blue; the postdiscal band diffuse. Body above, black; beneath greyish. In the ♀ the orange-yellow markings slightly broader and paler than in the ♂. In dry-season forms the markings much broader and paler. Underside: ground-colour brighter purplish brown, the markings more diffuse; the discal and subterminal lilac-blue bands broader and more diffuse, the former zigzag.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Common.

Habitat.—Sikhim, Bhutan, Assam, Cachar.



FIG. 333.—NEPTIS
MIAH, ♂.
(Underside.)

424. **Neptis viraja**, ♂ ♀.—Upperside black, the markings orange-yellow. Forewing: streak in cell broad and long; a broad oblique band from middle of dorsum to beyond vein 3, another oblique band from apical third of costa to below vein 5, and beyond these a subterminal fine line. Hindwing: a subbasal broad rather paler yellow band, a postdiscal narrower band not quite reaching the costa and a faint pale subterminal line. Underside dusky brown, the markings as on the upperside but blurred. Forewing with two subterminal fine lines. Hindwing: the costa at base yellowish; discal and subterminal pale bands. Body above, black; beneath, greyish white.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Fairly common.

Habitat.—Sikhim, Bhutan, Assam, Bengal, Orissa, S. India.



FIG. 334.—NEPTIS
VIRAJA, ♀.
(Underside.)

425. **Neptis heliodore**, ♂ ♀.—Upperside black with very broad orange markings. Forewing: streak in cell thrice indented anteriorly, a crescent shaped spot in middle of dorsum extending into interspace 1, a large obliquely placed spot in interspace 2; a large obliquely placed pre-apical irregular spot to interspace 4; a postdiscal series of triangular spots in the interspaces and a narrow subterminal line. Hindwing with the usual subbasal and postdiscal bands and subterminal pale line. Underside: similar but the ground-colour dusky black, the markings broader and somewhat blurred. Body beneath greyish-white.

Expanse.— $1\frac{3}{4}$ " to 2".

Habitat.—Assam and Cachar.

426. **Neptis kirbariensis**, ♂ ♀.—Upperside black, the markings pale yellow.



FIG. 335.—NEPTIS KIRBARIENSIS, ♂.

Forewing: streak in cell long and broadening towards the apex, the spots of the discal band up to vein 3 very large, the pre-apical oblique band from costa to vein 4 also large. Hindwing: a subbasal very broad band and a postdiscal narrower band. Underside pale yellow the markings as on the upperside but almost white with a pinkish tinge. Hindwing: discal band white with a pinkish tinge; a few postdiscal dark brown spots, the subterminal band white. On the forewing, a dark patch at base of interspace 2 and a dark brown very oblique band from middle of costa nearly reaching the termen at its middle; the apex a terminal border of forewing darker yellow.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Rare

Habitat.—Naga Hills.

427. **Neptis phesimensis**, ♂ ♀.—Upperside: very similar to *N. kirbariensis*. but on the forewing the pre-apical band is much more obliquely placed and there are in addition two small spots on the costa above apex of cell streak. On the underside all the brown markings are much darker and with a purplish tinge. Forewing: the lower spot of the pre-apical oblique band whitish purple as also a transverse series of small spots in the dark oblique discal band. On the hindwing, the interspaces 6 and 7 almost entirely suffused with purple as also the subterminal pale band. The discal band yellow, not white, bordered on both sides by purplish dark brown lines; the apex of wing with a spot of the same colour.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Rare.

Habitat.—Naga Hills.



FIG. 336.—NEPTIS PHESENSIS, ♂.
(Underside.)

Genus.—*RAHINDA*.

428. ***Rahinda hordonia***, ♂ ♀.—Upperside black with orange markings. Forewing: streak in cell broad twice indented anteriorly, extending into interspace 3 at apex; posterior discal spots joined, the anterior obliquely placed spots also joined; a post-discal transverse pale line and a very fine, obscure, subterminal orange line. Hindwing: a broad subbasal band and a narrow postdiscal band. Underside: the orange markings as on upper-side but broader and less clearly defined; the ground-colour chestnut-brown covered with short, slender, transverse brown lines. On the forewing a postdiscal narrow lilac band defined by chestnut-brown lines on both sides. Hindwing with the base suffused with lilac, the subbasal and postdiscal bands bordered outwardly by narrow lilac bands; the terminal margin with an obscure lilac line. Body above, black; beneath pale.



FIG. 337.—*RAHINDA HORDONIA*, ♂.

Expanse.— $1\frac{1}{2}$ " to 2".

Common.

Habitat.—Throughout continental India; the Himalayas and Assam.

429. ***Rahinda paraka***, ♂ ♀.—Upperside black with broad yellow markings. Very similar to *R. hordonia*, but the underside is without the short, fine transverse lines.

Expanse.— $1\frac{1}{2}$ " to 2".

Common.

Habitat.—Assam, Cachar.

430. ***Rahinda aurelia***, ♂ ♀.—Resembles *R. paraka*, but the orange markings of the upperside darker and narrower. Forewing: the spots of the discal series well separated from one another, the subterminal line parallel to the terminal margin broad, slightly interrupted at vein 4, not forming two wide curves as in *R. paraka*. Hindwing: the subbasal line narrow and straight, the subterminal line very distinct. Underside, on the hindwing, is slightly suffused with pink, the ground-colour somewhat mottled.

Expanse.— $1\frac{1}{2}$ " to 2".

Habitat.—Assam.



FIG. 338.—*RAHINDA PAONA*, ♂.

431. ***Rahinda paona***, ♂ ♀.—Upperside black with pale yellow markings. Forewing: streak in cell very broad at apex, joined to a spot in base of interspace 3, two posterior subterminal spots large and a pre-apical band of contiguous spots. Hindwing: subbasal band broad and subterminal band narrow. Underside: markings as on upperside but rather larger, the ground-colour reddish-brown, and on the hindwing some greenish yellow bands, the terminal band outwardly edged at apex by a narrow purplish line.

Expanse.— $1\frac{3}{4}$ " to 2".

Rare.

Habitat.—Naga Hills.

Genus.—CYRESTIS.

432. **Cyrestis thyodamas**, ♂ ♀.—Upperside white, the veins black; both wings transversely crossed by fine black lines. Forewing: the base and costal area with greyish-brown markings as also the apex, terminal border and tornal area which latter has a tawny-yellow spot bearing two minute black spots, the post-discal transverse fine line broadening posteriorly and of a bluish-grey colour. Hindwing with a bluish-grey postdiscal band bordered on both sides by dark lines, a dark line from apex of wing to interspace 4 and thence as two parallel fine brown lines to the tornus where it is joined by a similar marking from the termen at vein 4, apex of vein 4 produced into a tail, the tornal area, dorsum and tornal lobe rich yellow with some brown and bluish-grey markings. Underside similar but paler. ♀ larger and more yellow.

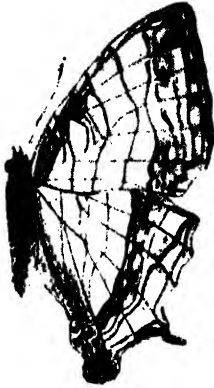


FIG. 339.—CYRESTIS
THYODAMAS, ♀.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—Generally throughout India, Eastern Bengal and Assam.

433. **Cyrestis cocles**, ♂ ♀.—Upperside of both wings with a white discal transverse band, basal and terminal areas greyish-brown, traversed by narrow black lines and broader brown lines, the black lines margined outwardly with white; a subterminal series of obscure dusky-centered grey ocelli. Underside pearly white with a pinkish tinge, the markings of the upper-side seen through faintly by transparency. Body above greyish-brown, beneath white, the thorax and abdomen with white lateral stripes. In dry-season forms, very much paler, the markings in many specimens very faint, of a creamy white.

Expanse.—2" to $2\frac{1}{2}$ ".

Uncommon.

Habitat.—Sikhim, Bengal, Assam.



FIG. 340.—CYRESTIS
COCLES, ♂.

Genus.—CHERSONESIA.



FIG. 341.—
CHERSONESIA
RISA, ♂.

434. **Chersonesia risa**, ♂ ♀.—Upperside rich dark reddish yellow. Both wings crossed transversely by fine black lines; a basal and subbasal pair, a discal single line, a postdiscal pair of lines and a subterminal line. The space within the basal and sub-basal pair of lines dusted with dusky scales, the space within the pair of postdiscal lines bearing a dark band, broken up on the forewing. Hindwing: apex of vein 4 black and produced into a short tail, the tornus with two bluish spots and two black spots above them. Underside paler, the spaces between the transverse lines faintly pearl-white on the hindwing. Body yellow with dark lateral stripes.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Habitat.—The Himalayas, Sikkim, Bhutan, Assam.

Common.

Genus.—JUNONIA.

435. **Junonia iphita**, ♂ ♀.—Upperside pale brown with darker brown transverse markings. Forewing: cell with two loop-like markings, a short, broad, dark oblique band beyond to vein 4, continued as a narrower and paler band to vein 1, a post-discal obscure band, a narrow dark subterminal line and dark terminal border. The postdiscal band bearing one or more obscure ocelli. Hindwing with a faintly marked loop near apex of cell, a short discal band, a series of postdiscal yellowish ocelli with dark centres, followed by two waved dark lines. Underside brown with very broad darker brown traversed bands the spaces between the markings finely dusted with purplish-white scales. The ocelli obscure, followed by a postdiscal zigzag line, subterminal and terminal lines. Apex and tornus touched with silvery purple. Hindwing with the discal dark band straight. In most specimens, on the upperside of the forewing, a pre-apical white speck, and on the underside of the hindwing many specimens have one or two subcostal white spots on the transverse discal band.



FIG. 342.—JUNONIA IPHITA, ♂.

Expanse.— $2\frac{1}{4}$ " to 3".

Very common.

Habitat.—Throughout India and Assam.



FIG. 343.—JUNONIA LEMONIAS, ♂.

436. **Junonia lemonias**, ♂ ♀.—Upperside dark brown. Cell crossed by four short black waved lines, the space between the middle pair, two spots beyond apex of cell dull yellowish-white. A discal curved series of spots and a postdiscal straighter series followed by a subterminal series of spots, yellowish-white. A large discal blue centred yellow-ringed black ocellus and a much smaller brown subapical ocellus between the discal and postdiscal series of spots, finally a dark brown terminal border. Hindwing: paler brown; a slender loop at apex of cell, a large ocellus similar to that on the forewing, subapically placed, often with the outer ring enclosing a second very small ocellus; postdiscal, subterminal and terminal dark brown lunular lines. Underside: yellowish brown, wings somewhat mottled, crossed by waved bands and series of obscure pale spots. Forewing with a large black pale-ringed ocellus, the hindwing with or without a series of dots in the postdiscal dark band. In some specimens there are two black-centred pale-ringed ocelli in the postdiscal dark band on the underside of the hindwing.

Expanse.—2" to 2½".

Very common.

Habitat.—Throughout India and Assam.



FIG. 344.—*JUNONIA ORITHYA*, ♂

437. ***Junonia orithya***, ♂.—Upperside: Forewing: rather more than the basal half jet-black, apical half pale brown, an oblique discal white band from costa to a little below vein 4, a postdiscal white band interrupted by a black, yellow-ringed ocellus, another larger blue-centred yellow-ringed black ocellus below it; the tornal area bright blue, a postdiscal narrow transverse dark line followed by a complete line of white spots. Hindwing bright blue shaded with black at base, a postdiscal black white-centred orange and black-ringed ocellus in interspace 2, a minutely white-centred black spot, sometimes absent, in interspace 5, the terminal border white with three waved fine dark lines. Underside: Forewing: cell area crossed by three black-edged orange-yellow bands with white between them, followed by a pale band bordered by a black line; the discal, postdiscal and subterminal bands as on upperside but dull white, the tornal area and along the dorsum greyish brown, the ocelli as on upperside but not blue centred and more faintly ringed with yellow. Hindwing mottled in white and different shades of brown, a very fine waved discal transverse line, the postdiscal broad brown band bearing a series of obsolete spots. ♀ with larger and more clearly defined ocelli. On the upperside brown with very little trace of blue on the hindwing.

Expanse.—1¾" to 2".

Common.

Habitat.—Throughout India generally, Assam and Cachar.

438. ***Junonia atlites***, ♂ ♀.—Upperside grey with dark greyish-brown markings. Forewing: cell with three transverse waved, short, fine lines, a similar broader line beyond the apex of cell, a discal transverse highly waved band followed by a postdiscal series of ocelli, that in interspace 2 the largest, one or more of the others very faint and with small brown centres; the ocellus in interspace 2 and one or more towards the apex inwardly orange-yellow, outwardly black; finally subterminal and terminal waved lines. Hindwing similarly marked, a faint loop-like mark at apex of cell. Underside paler, the markings as on upperside but very faint. ♀ larger, the markings larger and more clearly defined. Body grey above, white beneath.



FIG. 345.—*JUNONIA ATLITES*, ♂.

Expanse.—2¼" to 2¾".

Very common.

Habitat.—At the foot of the Himalayas, Sikhim, Eastern Bengal and Assam, Central Provinces, Kanara.

439. **Junonia hierta**, ♂ ♀.—Upperside: Forewing yellow, costa, apex, dorsum and tornal area dark brown, two transverse pre-apical pale yellow streaks, a postdiscal ocellus in interspaces 2 and 5, obscure and sometimes absent in the ♂, but conspicuous and centred with blue in the ♀. Hindwing: yellow, the base, apex and costal area dark brown, the latter with a large prominent bright blue subcostal patch; terminal border with three fine black lines. In some specimens a small pale black-ringed postdiscal ocellus in interspaces 2 and 5. Underside: Forewing yellow, a few fine black transverse lines in cell from costa, a short black bar beyond apex of cell, a large round black spot in interspace 2 and another smaller spot in interspace 5. Apical area as on upperside but very pale, dorsal area blackish brown. Hindwing greyish, a discal transverse waved band and subterminal waved line brown, the series of postdiscal spots minute, some wanting. ♀ larger and more mottled with brown on the underside. Body below, whitish-yellow.



FIG. 346.—JUNONIA HIERTA.

Expanse.—2" to 2½".

Very common.

Habitat.—Practically throughout India, Eastern Bengal and Assam.

440. **Junonia almana**, ♂ ♀.—Upperside orange-yellow. Forewing: the costa, the cell and costal area to near the apex of wing crossed by four short dark bands, a prominent pale-centred ocellus with 2 black rings and generally two pre-apical ocelli, an inner and an outer subterminal and terminal dark brown line. Hindwing with three border lines as on forewing but better defined, a very large pale yellow black-ringed ocellus spreading over interspaces 4, 5 and 6, the centre inwardly reddish-yellow with two white spots, outwardly black. Also in most specimens a small black-ringed ocellus in interspace 2. Underside: pale yellowish brown, very variable, the markings as on upperside but paler. On the hindwing a discal transverse white band continued on to the forewing. The ocelli more or less as on upperside but very much paler. Body brown above, yellowish beneath.



FIG. 347.—JUNONIA ALMANA, ♂.

Expanse.—2¼" to 2½". Exceedingly common.

Habitat.—Throughout India, Eastern Bengal and Assam.

Genus.—VANESSA.

441. **Vanessa cardui**, ♂ ♀.—Upperside reddish yellow with dark brown markings, apical area of forewing with a short postdiscal white bar from costa and a pre-apical series of white spots. Hindwing with a series of postdiscal dark brown spots and a subterminal series of small spots, the



FIG. 348.—VANESSA CARDUI.

apices of the veins bearing a dark spot. Fringe of both wings white. Under-side: Forewing: as on upperside but paler, the terminal border with white lines. Hindwing: much mottled with dark brown and yellowish white, a postdiscal series of black-ringed ocelli with bluish centres, the ocellus in interspace 2 the largest; beyond these a series of greyish lunules on a greyish background, the terminal border with a yellowish line. Markings very variable.

Expanse.— $2\frac{1}{2}$ ".

Exceedingly common.

Habitat.—Occurs all the world over and known as the "Painted Lady."

442. ***Vanessa indica***, ♂ ♀.—Upperside dusky black, an orange-red discal band from costa through apex of cell to vein 1 at tornal angle. On the dark apical area three white spots from costa beyond apex of cell followed by a series of pre-apical white spots the lowest of which is large and quadrate, terminal border paler. Hindwing uniform dusky brown with a comparatively narrow orange-red border bearing a series of black spots in the interspaces and margined inwardly by black marks, the apices of the veins black and tornal angle with a small patch of violet scales. Underside: Forewing: markings as an upperside but paler. Beyond the cell are three transversely placed small blue spots. Hindwing mottled dark brown, the basal dark markings outlined by silvery-grey lines, a postdiscal series of somewhat obscure dark ocelli with blue-grey centres, the terminal border posteriorly silvery-grey inwardly bordered

by a series of blue lunules and an outer very fine line, a blue spot inwardly bordered by a black line at tornal angle. Fringe of both wings alternated brown and white.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Exceedingly common.

Habitat.—Throughout India.

443. ***Vanessa cashmirensis***, ♂ ♀.—Upperside: Forewing: the costa at base brown flecked with yellow, base of cell red, a broad black band across the cell with a broader band beyond extending to vein 4, and a third band extending to vein 5, followed by a white pre-apical spot. On the discal area a large black spot followed by three black spots in the interspaces 1, 2 and 3, the terminal border with a dark brown band bearing a series of black lunules and terminal slender black lines. The rest of the wing anteriorly yellow and posteriorly red. Hindwing: basal half dusky brown bordered outwardly by a black band, followed by a red band anteriorly turning to yellow, a terminal brown band bearing a series of black bordered blue lunules and two slender terminal black lines. Underside brown, thickly covered with transverse short black streaks; basal half of wings purplish brown bordered outwardly by a jet-black



FIG. 349.—VANESSA
INDICA.



FIG. 350.—VANESSA
CASHMIRENSIS.

transverse line; terminal half of wings paler with two dark patches below costa of forewing; finally a subterminal narrow dark blue band across both wings, bordered on both sides by slender black lines, widening into spots on the veins of the forewing. Antennæ dark brown, minutely ringed with white.

Expanse.—2" to 2½".

Common.

Habitat.—The Himalayas from Simla to Sikkim on the Southern slopes. Occurs May to October, appearing on fine days even in winter.

444. **Vanessa rizana**, ♂ ♀.—Colouring and markings as in *cashmirensis* but brighter and more clearly defined. Outline of wings almost quadrate, the black basal portion of the hindwing is larger covering about two-thirds of the wing and produced to the tornus. Both wings with a dusky brown terminal border, traversed by a series of triangular black spots centred with blue. Underside much darker than in *cashmirensis*, but markings similar.

Expanse.—2 inches.

Habitat.—Kashmir to the Kumaon Himalayas at elevations of from 9,000 to 17,000 feet. Rare in Sikkim.

445. **Vanessa ladakensis**, ♂ ♀.—Very similar to *V. rizana*, but the lower black discal patch in forewing much broader; two small rounded black spots in interspaces 2 and 3 placed on a yellow band. Hindwing with the subterminal series of black spots larger and each centred with blue. Underside much paler than in either *cashmirensis* or *rizana*.

Expanse.—2 inches.

Habitat.—Ladak, Tibet, Sikkim and Nepal.

Flies in June to August at an elevation of about 16,000 feet ascending northwards to the Karakorum to about 19,000 feet.



FIG. 351.—VANESSA LADAKENSIS.



FIG. 352.—VANESSA ANTIOPA.

A, BI.

446. **Vanessa antiopa**, ♂ ♀.—Upperside very dark red; costal margin of forewing black, flecked with yellow at base and with two broad pale yellow bands on the apical half; the terminal margin of the dark red ground-colour of both wings broadly black bearing a row of violet-blue spots; the terminal margins of the wings broadly creamy-white dusted with minute black specks. Underside very dark brown densely covered with slender jet-black streaks; the cream coloured terminal border and the short subcostal bands on the forewing much as on the upperside, dusted with minute black dots. There are also small cream-coloured spots at the apices of the cells in both wings and numerous stiff black hairs along the basal portion of the costal margin of the forewing. Abdomen beneath, very hairy.

Expanse.— $2\frac{3}{4}$ " to 3".

Uncommon.

Habitat.—Chumbi Valley and in Bhutan.

Flies in July and August.

447. **Vanessa canace**, ♂ ♀.—Upperside very dark blue-black, both wings crossed by a broad postdiscal blue band much excurved before the apex on forewing and bearing a series of small black dots on the hindwing. Beyond apex of cell on forewing is a short broad blue bar. On both wings the terminal border is blue dusted with black scales and bearing a waved terminal black line. Underside: basal half very dark defined outwardly by a narrow highly waved black line, terminal half of wings paler. The whole underside beautifully mottled and densely covered with dark fine streaks. A small cream-coloured spot at apex of the cell in both wings and along the dorsum near tornal angle of forewing.



FIG. 353.—VANESSA CANACE.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Fairly common.

Habitat.—The Himalayas, Sikkim, Assam, Southern India.

448. **Vanessa c-album**, ♂ ♀.—Upperside dark yellowish-red, with the following black markings. Forewing: two spots in the cell and a band beyond apex of cell followed by a pre-apical band and three spots in the interspaces 1, 2 and 3. Outside these last a patch on the dorsum near anal angle and a broad terminal band dusted on the outer margin with grey scales. Before the broad terminal band is a series of obscure transverse pale yellow spots. Hindwing: a bar from below middle of costa, a spot at bases of interspaces 3 and 5, a postdiscal transverse band and terminal border black; the terminal margin traversed by a row of small pale yellow spots and outwardly dusted with grey scales. Underside: variegated in shades of dark brown and dusted all over with numerous fine dark lines and specks; on the hindwing is a white C-shaped mark just below lower apex of cell. On both wings a postdiscal transverse row of greenish ocelli and lunules. In dry-season forms the ground-colour is paler on both upper and undersides.



FIG. 354.—VANESSA C-ALBUM.

Expanse.—2" to $2\frac{1}{2}$ ".

Uncommon.

Habitat.—N. W. Himalayas.

The race *agnicula* from E. Kumaun, Nepal and east of Sikkim has a much more uneven termen to both wings and the terminal dark border of the hindwing is very broad bearing a transverse series of very small yellow dots,

Genus.—ARASCHNIA.

449. **Araschnia dohertyi**, ♂ ♀.—Upperside very dark brown. Forewing: three or four fine white lines across the cell, another at base below the cell and continued on the hindwing, a yellowish-white patch beyond the cell followed by a transverse series of dirty white spots, those towards to costa yellow; beyond these a subterminal series of yellowish-red spots and a paler lunular spot in interspace 3 just before the terminal border. Hindwing: a fairly broad cream-coloured discal band and a subterminal line of ochraceous lunules. Underside: the discal band and spots as on upperside. Both wings variegated with bands and lines in shades of brown, yellow and white; a few black lines and markings, the terminal medial area of both wings purplish, the tornal angle of hindwing with a blue spot margined with black.



FIG. 355.—ARASCHNIA DOHERTYI.

Expanse.—2 inches.

Common but local.

Habitat.—Manipur and the Naga Hills at elevations of from 6,000 to 8,000 feet.

Genus.—SYMBRENTHIA.

450. **Symbrenthia lucina**, ♂ ♀.—Upperside black with orange-yellow markings. Forewing: a wide streak in cell, twice indented above and joined to a spot at base of interspace 3, a pre-apical band from costa to interspace 4, with two or three small spots beyond and a band from middle of dorsum to just beyond vein 3. Hindwing: a broad transverse medial band, a postdiscal narrower band and a subterminal fine line. Underside: pale yellow, the wings crossed by numerous dark yellowish-red lines and spots, an outwardly oblique dark streak from dorsum at base of hindwing to costa and continued on the forewing up to vein 4. Both wings with a postdiscal series of very obscure ocelli and lunules. On the hindwing a large medial patch of purplish scales on the postdiscal area with a blue lunule in interspace 3 bordered by a fine black line. ♀ similar, the orange markings broader and rather paler. Above is the description of the wet-season form. In dry-season forms the orange markings on the upperside are broader and paler. Underside paler with all the dark markings less clearly defined.

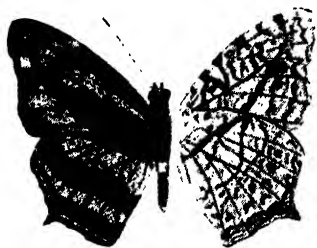


FIG. 356.—SYMBRENTHIA LUCINA.

Expanse.—1½" to 1¾".

Very common.

Habitat.—The Himalayas, Sikhim, and throughout Assam.

451. **Symbrenthia hypselis**, ♂ ♀.—Upperside black with dark yellowish-red markings. Forewing: a broad streak in cell, once indented and joined to a spot at

base of interspace 3, a pre-apical spot across the middle of interspaces 4 and 5 and an oblique band from beyond middle of dorsum to vein 3 near the terminal margin.

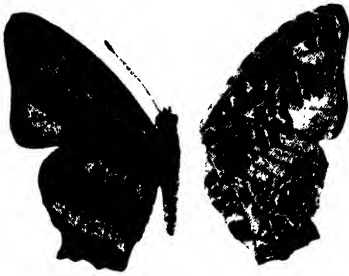


FIG. 357.—*SYMBRENTHIA*
HYPSELIS.

Hindwing: a subbasal fairly broad transverse band, an equally broad postdiscal band narrowing anteriorly and not extending beyond vein 5, and finally a very slender and obscure subterminal line from vein 1 to 4. Underside creamy white with a few yellow blotches and heavily marked with black tessellations. Hindwing with a prominent postdiscal series of metallic-green cone-shaped marks surrounded by the pale yellow of the ground-colour and defined by black lines, the posterior portion of the terminal border with 3 to 4 metallic-green lunules and a small green lunule on the dorsum near the tornus. In dry-season

forms the red markings of the upperside are paler, specially in the ♀; much broader and more extended in both sexes. On the underside the ground-colour sometimes nearly white, the black tessellations smaller.

Expanse.—2" to 2½".

Very common.

Habitat.—The Himalayas, Sikkim, throughout the hill ranges of Assam below 4,500 feet.

452. *Symbrenthia brabira*, ♂ ♀.—Similar to *S. hypselis* but the dark yellow markings paler, the pre-apical spot on forewing forming an irregular band extended to the costal margin and generally with one or more small orange-yellow spots beyond; the subbasal band of the hindwing narrowing towards the costal margin. Underside darker yellow; the black tessellations smaller and more restricted; on the hindwing the postdiscal cone-shaped metallic-green markings smaller. In dry-season forms the markings of the upperside paler and broader, coalescing on the forewing. On the underside the ground-colour paler, the postdiscal cone-shaped markings almost of the ground-colour and only sparsely or not at all bearing greenish scales. A form of the ♀ from Bhutan obtained in August 1922 has the postdiscal markings of the hindwing entirely of the ground-colour and square in shape not cone-shaped, very clearly defined by black lines and an inner series of black spots, as shown in illustration above.

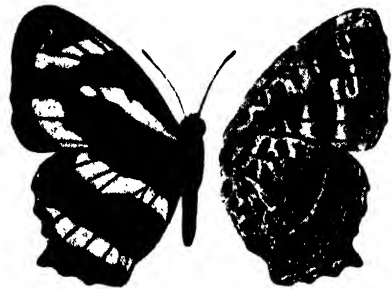


FIG. 358.—*SYMBRENTHIA*
BRABIRA, ♀ VAR.

Expanse.—1½" to 2".

Uncommon.

Habitat.—The Himalayas, Sikkim, Nepal and Bhutan.

453. **Symbrenthia niphanda**, ♂ ♀.—Similar to the foregoing but the markings on the upperside much paler, being yellowish white in the middle; on the forewing the pre-apical marking is narrow and zigzag extending to the costa, and the postdiscal band on the upperside of the hindwing is narrower. Underside: ground-colour pearly white, the black tessellations on both wings more heavily marked.

Expanse.—2" to 2½".

Uncommon.

Habitat.—Sikhim, Bhutan and the Naga Hills.

The race *silana* is conspicuously different on the underside, the colour of the subterminal lunules on the hindwing are a beautiful metallic cerulean blue and not metallic green as in *niphanda* and *hypselis*. In Sikhim, Bhutan and the Naga Hills at elevations of from 3,000 to 5,000 feet.



FIG. 359.—SYMBRENTHIA NIPHANDA.
(Underside.)

Genus.—PROTHOE.

454. **Prothoe regalis**, ♂.—Upperside very dark brown with a purple gloss. Forewing with a very broad oblique band of blue extending to the termen below vein 6 but subterminally intercepted in interspaces 3, 4 and 5, two pre-apical pale blue spots and a small subterminal spot in interspace 6. Hindwing: uniform with the costa, apical area and terminal margin from vein 4 down to tornal angle very narrowly pale blue. Underside: Forewing: ground-colour very pale brown with



FIG. 360.—PROTHOE REGALIS.

large dark chocolate-brown markings; the pre-apical spots as on the upperside but white and a series of subterminal pale grey markings. Two-thirds of interspace 1 and the tornal angle shaded with dark brown. Hindwing: the ground-colour at base to nearly the middle of the wing pale greyish-brown as on forewing, thickly and broadly marked with very dark chocolate-brown spots and blotches, followed by a discal series of elongate dark brown wedge-shaped markings in the interspaces. Beyond these the terminal portion of

the wing bears a series of very large irregular cone-shaped marks dusted with green and dark brown scales, margined inwardly by a black and then a rufus-brown lunule; the apex of the wing also with a rufus-brown patch. A prominent oblong bluish-green eye-like mark centred and bordered with black, below vein 1 at about

the middle of the dorsum. The terminal border dark brown down to vein 3 and thence pale brown with an outer narrow white line to the tornus; the tornal angle with a rufus patch outwardly bordered by a dark spot.

Expanse.— $3\frac{1}{4}$ inches.

Exceedingly rare.

Habitat.—Upper Assam, Manipur and in Cachar at the foot of the Lushai Hills.

I obtained two male specimens of this very rare and most beautiful butterfly in June 1912 at Loharband in Cachar on the Lushai border.

Genus.—RHINOPALPA.

455. **Rhinopalpa polynice**, ♂.—Upperside rufus brown, both wings with the apex and terminal border broadly black. On the hindwing three round postdiscal black spots in interspaces 2, 3 and 4. Below vein 5 of the hindwing the terminal area has two parallel black lines; the tail at apex of vein 5 rufus and the tornal angle touched with blue. Under-side a very rich dark brown crossed by several very delicate transverse silvery lines on both wings; a series of somewhat obscure round white-centred brown ocelli and three subterminal silvery lines. The ocellus in interspace 1 on the forewing inwardly bordered by a conspicuous white spot and a small pre-apical white spot on costa. On the hindwing the ocelli bordered inwardly with dark red and a patch of the same colour above the tornus. The tornal lobe with a short transverse blue spot narrowly edged with black; finally a small white spot above the tornal lobe. ♀ similar to the ♂ but paler, the ground-colour yellower.



FIG. 361.—RHINOPALPA POLYNICE, ♂.

Expanse.—3" to $3\frac{1}{4}$ ".

Habitat.—Assam, the Naga Hills, Lushai Hills, Manipur and Cachar.

Genus.—HYPOLIMNAS.

456. **Hypolimnas bolina**, ♂.—Upperside black. Forewing: an oval shaped iridescent blue patch broadly centred with white crossing interspaces 3, 4 and 5; a pre-apical white patch and a postdiscal transverse series of minute white dots. Hindwing: a central large oval iridescent blue patch broadly centred

Rare.



FIG. 362.—HYPOLIMNAS BOLINA, ♂.

with white and a postdiscal series of minute white dots. Fringe of both wings white alternated with black. Underside brown. Forewing: a few small white spots above the cell near the costal margin, an oblique discal series of oval spots from costa to interspace 3, two pre-apical white spots and below them a transverse curved row of minute white spots, followed by an inner and an outer subterminal series of lunular white marks. Hindwing: a fairly broad discal white band, a postdiscal series of minute white dots, an inner subterminal pale band followed by a waved dark line and a subterminal lunular narrow white line.

♀ Upperside dark brown paling towards the terminal margins. Forewing: a few bright blue spots along the upper margin of the cell and on the costal margin; an oblique series of bright blue spots from middle of costa to interspace 3, a postdiscal complete series of white spots, an inner subterminal series of white markings in the interspaces and an outer series of white lunules. Hindwing: a postdiscal series of transverse white spots followed by a series of double wedge-shaped white marks, two in each interspace and an outer subterminal series of white lunules. Underside dull brown. Forewing: the basal half of costal margin darker, dusted with grey scales, three small spots just within the cell as on the upperside but greyish, the discal band dull white. The terminal markings on both wings as on upperside; the hindwing having in addition an obscure discal greyish-white band. In the dry-season form the discal band on the underside of the hindwing diffuse and dusted with dusky scales. In the ♀ this band is sometimes entirely wanting or indicated only by a pale shading.

Expanse.—3" to 4½".

FIG. 363.—*HYPOLIMNSA BOLINA*, ♀.



Very common.

Habitat.—Throughout India.

A butterfly, variable in its markings.

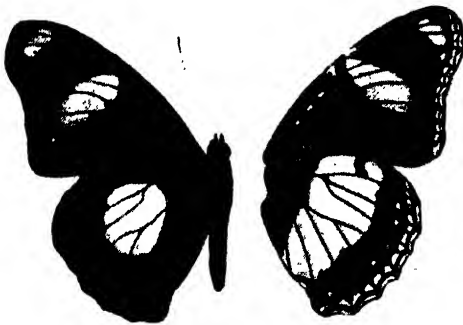


FIG. 364.—*HYPOLIMNAS MISIPPUS*, ♂.

457. *Hypolimnas misippus*, ♂
Upperside: similar to *H. bolina*, ♂ but the spots white and larger, surrounded with dark iridescent blue. On the hindwing a few minute pale blue specks at the tornus, the terminal border paler with a dark waved transverse line. The fringe of both wings

alternate white and black. Underside: Forewing: the white spots as on upper-side, the discal spot being margined by a black line; three small white spots surrounded with black in cell and a white streak beyond apex of cell. The base of wing dark red-brown, the ground-colour of the rest of the wing brown, paler in the apical portion beyond the discal white band; a postdiscal series of minute white spots and a transverse double row of white lunules. Hindwing: reddish-brown with a very broad white discal band, bearing at the lower end a transverse black mark and another under the costa in interspace 7; also a black transverse border to the white band near the base of interspace 7. Beyond the broad medial band there is a complete postdiscal series of small white spots, an inner subterminal series of paired white spots and an outer line of white lunules, an intervening waved black line between; the terminal margin black. Body above, black and beneath spotted



FIG. 365.—*HYPOLIMNAS MISIPPUS*, ♀.

with white. ♀ There are 3 forms of the ♀. Form 1 presents a startling likeness to *Danaus chrysippus*. Forewing: the costa, the apical half of the wing and the termen black, the basal posterior half of the wing a rich red-brown; an oblique band of elongate white spots and a subapical series of three or four smaller spots, the terminal border with a double row of transverse small white lunules. Hindwing: rich red-brown; a dusky black mark in middle of inter-

space 7, the terminal border black traversed by a double row of paired small white lunules. Fringe of both wings alternated black and white. Underside paler except the disc of the forewing, the markings much as on upperside. Forewing: basal half of costa dusted with grey scales, and four white spots in line just below costa; the apical area beyond the band of white spots not black as on upperside but yellowish-brown. Hindwing: a black spot at upper apex of cell in addition to the markings on the upperside, the double row of lunular spots of the terminal border much larger and more clearly defined than on upperside. In the **second** form the disc of the hindwing on both sides white. In the **third** form the band of elongate spots on the forewing yellowish and the middle of the black apical area red-brown.

Expanse.— $2\frac{1}{2}$ " to $3\frac{1}{4}$ ".

Common.

Habitat.—Throughout India.

Note.—The female is a good mimic of the very common *Danaus chrysippus* and both are found flying together.

Genus.—PENTHEMA.

458. **Penthema lisarda**, ♂ ♀.—

Upperside very dark brownish black slightly glossed with blue. Basal half of both wings with broad white streaks in the interspaces followed by a terminal double row of transverse roundish white spots. Underside brown; the forewing darker than the hindwing and somewhat glossed with blue; the streaks and spots as on the upperside.

Expanse.— $4\frac{1}{4}$ " to 5". Uncommon.

Habitat.—Sikhim, Assam and Cachar.



FIG. 366.—PENTHEMA LISARDA.

Genus.—DOLESCHALLIA.

459. **Doleschallia bisaltide**, ♂ ♀.—

Upperside yellowish brown, paling to golden yellow anteriorly on the forewing and dusky brown anteriorly on the hindwing. Forewing: a black band from below middle of costa, across apex of cell to middle of terminal border, which, with the apex of the wing is also black.

There are two, sometimes three, small preapical white spots. Hindwing uniform, the costal border broadly dusky brown, a subterminal and a terminal narrow dusky brown line, a postdiscal minute black spot in interspace 2 and another in interspace 5; the tornal lobe black. Underside very variable. The ground-colour varies from reddish to dark brown with some grey and purplish scales. The base of both wings in and about the cell are marked with white spots and a narrow black line margined with greyish scales crosses the middle of both wings, straight on hindwing and much angled below costa on forewing. On both wings a postdiscal series of rather obscure ocelli and white spots, a pre-apical white spot and apex of forewing touched with grey scales.



FIG. 367.—DOLESCHALLIA BISALTIDE, ♂.

Expanse.— $2\frac{1}{2}$ " to 3".

Common.

Habitat.—Eastern Himalayas, Sikhim, and throughout the hill ranges of Assam. Also Southern India.

Genus.—KALLIMA.

460.—**Kallima inachus**, ♂ ♀.—Upperside: Forewing: basal area, the cell and dorsal area dark violet-blue; the bases of interspaces 3 and 4 also dark blue

outwardly margined with black. In middle of interspace 2 a hyaline spot surrounded with black. A very broad oblique discal orange band from middle of costa to termen at apex of vein 2. The apical third of the wing very dark purplish-black with a pre-apical hyaline white spot. Hindwing more or less uniform purplish, the terminal border with a zigzag transverse dark line. Under-side: no two specimens alike. Both wings mottled in shades of brown and dusted with dark scales. From apex of forewing to apex of tail on hindwing is a conspicuous medial straight dark brown line making the underside resemble a dead leaf. The hindwing bears traces of a series of postdiscal ocelli, but very obscure.

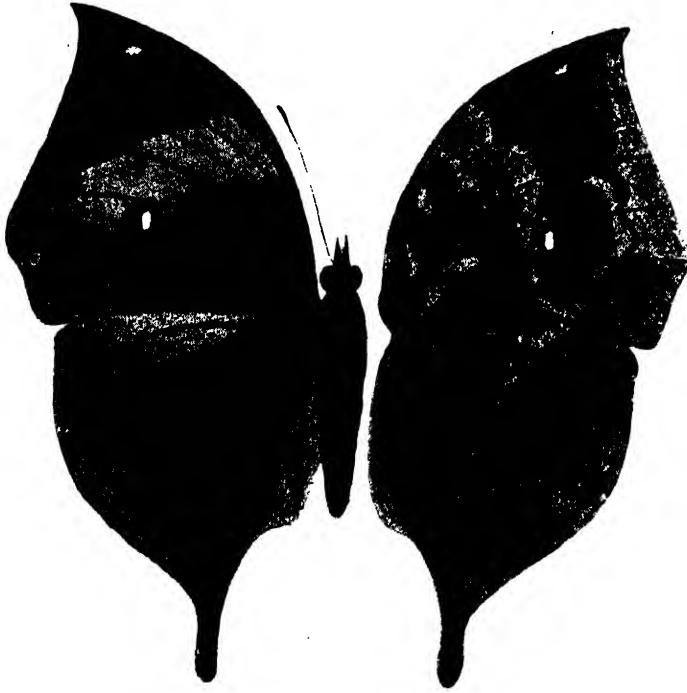


FIG. 368.—*KALLIMA INACHUS*, ♂

The ♀ is larger than the ♂ and generally of a more reddish shade on the underside and with paler yellowish-brown mottlings. The apex of the forewing is produced into a longer point. Wet-season specimens of both sexes smaller than those of the dry-season.

Expanse.—4" to 4½".

Common.

Habitat.—Throughout the Himalayas at low elevations, Orissa, Eastern Ghâts, the hills of Assam and Cachar.

461. *Kallima horsfieldi*, ♂ ♀.—Upperside as in *K. inachus*, but the forewing with a broad, oblique, pale blue band turning to white on the anterior half and an extra hyaline spot in interspace 3. Both fore and hindwings with a dark

brown subterminal zigzag line starting below vein 3 on the forewing. Underside as in *K. inachus* simulating a dry leaf. In wet-season forms the blue discal band of the forewing uniform pale blue, not turning to white anteriorly as in dry-season specimens.

Expanse.—4" to 4½".

Rare.

Habitat.—From Bombay southwards in West and South India.

462. ***Kallima kuyveti***, ♂ ♀.—Upperside similar to *K. horsfieldi* but the blue band of the forewing nearer the base of the wing and entering the cell; this latter defined by a curved black line. The blue band starts on the costa before the middle of the wing and reaches the tornal angle, is of more or less even width throughout and turns to white anteriorly. Base of forewing black heavily dusted with greenish-blue scales; apical half of the wing black with a pre-apical hyaline spot and a round hyaline spot in interspace 2. Hindwing dark brown faintly glossed with purple; a dark subterminal zigzag transverse line continued on the forewing to vein 3. Underside similar to other forms of *Kallima* but generally marked in darker shades of brown and the postdiscal series of ocelli rather more distinct. As in the other members of this family the underside resembles a dead leaf.

Expanse.—4" to 4½".

Rare.

Habitat.—Sikhim, Bhutan and the Naga Hills in Assam.

Occurs from June to September.



FIG. 369.—*KALLIMA*
KUYVETI, ♂.

Genus.—**CETHOSIA**.

463. ***Cethosia cyane***, ♂.—Upperside reddish yellow. Forewing: red at base posteriorly, the cell anteriorly and apical two-thirds black; an oblique white bar formed of elongate spots with a black spot in interspace 4; a transverse series of obscure postdiscal small white spots and a terminal series of wide V-shaped white lunules. Hindwing: a few black spots beyond apex of cell, a subterminal series of round black spots and the terminal border broadly black with white lunular markings as on forewing. Underside: Forewing: crimson at base to nearly half the wing, the cell crossed by black, crimson and pale blue lines, the white bar as on upperside, a postdiscal series of transverse black spots encircled with white followed by a transverse black band then a white line and a broad

yellow band, the terminal border black with white lunules as on upperside but



FIG. 370.—*CETHOSIA CYANE*, ♂.

with a short white streak in the middle of each from the margin. Hindwing: base up to nearly the middle of the wing crossed with heavy black spots the ground-colour at base greyish followed by a broad crimson band from costa to vein 1; beyond this an irregularly placed series of black spots then a white band outwardly bordered by a series of small black spots and followed by a broad yellow band and a series of large round black spots on a

white background. Beyond this a series of more or less paired black spots and a subterminal yellow band; the terminal border broadly black with the white V-shaped lunules as on forewing. The fringe on upper and undersides of both wings white. ♀ markings similar but the ground-colour pale greenish white and brownish on upperside. Underside with all the markings paler and no bright crimson patches at base of hindwing. Larger than the ♂.

Expanse.— $3\frac{1}{2}$ " to 4".

Common.

Habitat.—The Himalayas, Sikkim, Bengal, Orissa, throughout Assam and Cachar.

464. **Cethosia biblis** ♂.—Upperside: rich orange-red, the markings somewhat similar to those of *C. cyane*. Forewing: the cell crossed by several transverse black lines, two small white spots beyond the cell under costa; a transverse series of four or five V-shaped white loops followed by a postdiscal series of white spots and the terminal border with white

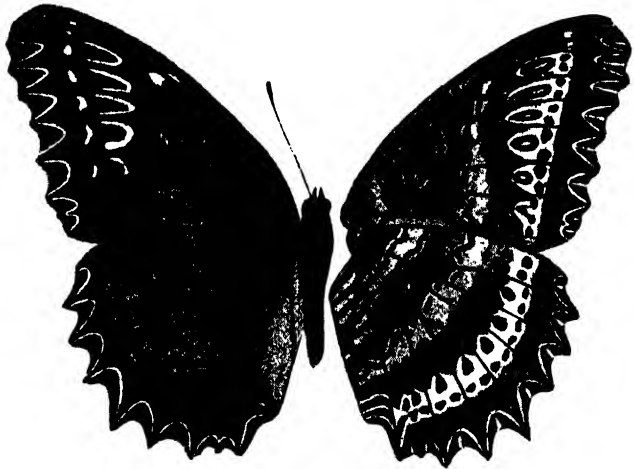


FIG. 371.—*CETHOSIA BIBLIS*, ♂

V-shaped markings as in *C. cyane*. Hindwing: the markings as in *C. cyane*. Under-side: markings very similar to those of *C. cyane*, the ground-colour altogether of a deeper yellowish brown, the base of the wings dull red not crimson. The cell of forewing crossed by three pale greenish-blue bands margined by black lines, a like band near base of hindwing. ♀ darker and of a dull greenish colour, markings as in the ♂.

Expanse.— $3\frac{1}{2}$ " to $3\frac{3}{4}$ ".

Fairly common.

Habitat.—Sikhim, Nepal, Bhutan, and throughout Assam and Cachar.

465. **Cethosia mahratta**, ♂.—Upperside tawny yellow. Forewing: cell anteriorly and the outer half of the wing from apex of cell to tornus, black; a broad discal band followed by a postdiscal series of black-centred slender white lunules, a transverse series of white spots and a subterminal series of white

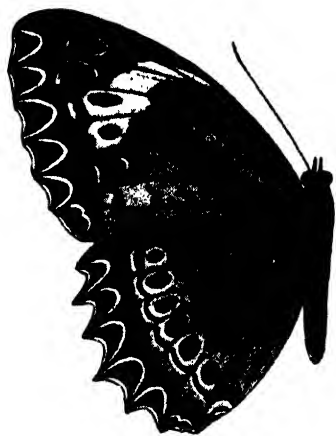


FIG. 372.—*CETHOSIA MAHRATTA*, ♂.

lunules; interspaces 1 and 2 with three or four black spots. Hindwing with broad black costal and terminal borders, a postdiscal series of large black spots margined with white, a subterminal tawny-yellow band and a terminal series of lunules. Underside variegated with reddish, bluish-white, yellow and black, the terminal margins of both wings black with white lunules and median short white lines as in the other forms of this family. The fringe of both wings alternately black and white. Forewing: basal area yellowish-red the discal area spotted with black; the white band as on the upperside followed by a postdiscal series of large black spots ringed with white, a row of paired black spots and a subterminal broad yellow band. Hindwing: basal area bluish crossed by black lines, followed by a red, a bluish-white,

a yellow, a white and a subterminal yellow band with rows of black spots between. On the white band a series of large black spots. ♀ similar but paler the markings larger and diffuse.

Expanse.—3" to 4".

Fairly common.

Habitat.—Southern India.

Genus.—**CYNTHIA**.

466. **Cynthia erota**, ♂.—Upperside yellowish-brown, darker at base and apex of forewing and terminal third of hindwing. Forewing: a few black lines across cell, an inner discal waved transverse black line and an outer obscure discal series of loop-like marks a postdiscal curved series of black spots, some very faint; an inner

and an outer subterminal zigzag black line. Hindwing: an inner discal straight transverse black line followed by a pale yellow patch anteriorly, an outer discal transverse faint zigzag line; an inner and an outer subterminal zigzag black line; an ocellus in interspaces 2 and 5 and a lilac spot at tornal angle. The termen at apex of vein 4 produced, forming a tail. Underside rather similar, the ground-colour and markings on basal half of both wings pinkish, beyond the median transverse dark line is a pale yellow area outwardly bordered by a faint zigzag reddish line. Forewing with a few pre-apical silvery-white spots an inner reddish-brown subterminal line and an outer subterminal waved pale brown line; the terminal area above the tornus touched with lilac. Hindwing with ocelli as on upperside touching a dark reddish-brown line extending across the wing from apex to tornus; beyond this line the ground-colour is shot with lilac particularly on the termen anteriorly and at the

FIG. 373.—*CYNTHIA EROTA*, ♂.

tornal angle; finally an inner and an outer subterminal waved line. ♀ markings similar. Upperside brown the basal area of both wings dusted with olive green scales beyond which is a broad white discal band. Underside paler and browner than in the ♂

Expanse.— $3\frac{1}{2}$ " to $4\frac{1}{2}$ ".

Common.

Habitat.—Eastern Himalayas, Sikhim and throughout Assam and Cachar.

467. ***Cynthia saloma***, ♂.—Practically identical with *C. erota*, the basal area up to the discal band on the upperside of both wings is, however, much darker brown, as also the terminal margins. The ♀ on the upperside is of a very dark olive brown, the black markings very heavily defined.

Expanse.— $3\frac{1}{2}$ " to $4\frac{1}{2}$ ".

Common.

Habitat.—Southern India.

Genus.—*ATELLA*.

468. ***Atella phalantha***, ♂ ♀.—Upperside dark yellow spotted and marked with black. Forewing: the cell crossed by three fine black lines and another at apex of cell a number of discal spots, a postdiscal series of lunules, a subterminal fine line and a terminal series of spots at the apices of the veins. Hindwing: a number of discal spots, a postdiscal series of lunules, a subterminal waved line and a terminal row of spots at the apices of the veins. Underside paler, the



FIG. 374.—*ATELLA PHALANTHA*, ♂.

markings very much fainter and reddish brown, not black. Both wings washed with pale purple.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Common.

Habitat.—Throughout India and Assam.

469. **Atella alcippe**, ♂.—Similar to *A. phalantha*, the cell of the forewing with four black lines and a black bar also at apex of cell; this last, the next to it in the cell and the middle one of the other three in the cell continued obliquely down to vein 1, the terminal border rather broadly black. Hindwing: basal two-thirds crossed by a number of slender black lines followed by a post-discal series of spots in interspaces 2—5, a broad, highly waved line, a subterminal straighter line and a terminal narrow band, all black. Underside paler yellow, the markings as on the upper-side but very obscure, the postdiscal markings and subterminal and terminal bands dark yellow. The posterior two or three spots of the postdiscal series on the forewing are black and large. On the hindwing the postdiscal spots are placed on a faint purplish band. ♀ the markings of the upperside broader and heavier; the apex of forewing black enclosing four quadrate spots of the ground-colour. Underside as in the ♂, but markings broader.



FIG. 375.—ATELLA
ALCIPPE, ♂.

Expanse.—2" to $2\frac{1}{4}$ ".

Common.

Habitat.—Sikhim, Assam, Cachar.

Genus.—ISSORIA.

470. **Issoria sinha**, ♂ ♀.—Upperside rich dark yellow. Forewing: dusky brown at base; cell with three transverse fine black lines and another at apex of cell; beyond the cell a dark brown patch; an oblique short dark band from costa; a transverse postdiscal series of dark brown spots and a pre-apical dark patch; a subterminal waved line and the terminal border dark brown or black. Hindwing shaded on its outer half with dusky brown; an obscure postdiscal series of dark brown spots, a subterminal series of lunules and a terminal dark brown or black band. The apex of vein 4 produced. Underside with purplish brown shading and purplish white markings. Hindwing with a transverse series of pale purple lunules; a discal series of ferruginous spots, the terminal margin narrowly brown.



FIG. 376.—ISSORIA
SINHA.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—The Himalayas, Bengal and throughout Assam and Cachar.

Genus.—CUPHA.

471. **Cupha erymanthis**, ♂ ♀.—Upperside light yellowish-brown. Forewing: some slender loop-like markings in cell a transverse discal yellow band from costa to

vein 1, broadening posteriorly, the inner border defined broadly with black, three curved postdiscal spots the lowest the largest in interspaces 1, 2 and 3; the apical



FIG. 377.—*CUPHA ERYMANTHIS*,

area black with a yellow subapical spot in interspace 5 and a paler ill-defined pale spot above it in interspace 6; the termen narrowly black above the tornus a yellow spot near apex of interspace 2. Hindwing: a number of transverse slender black lines followed by a discal series of 5 black spots in interspaces 2 to 6; a postdiscal series of black lunules, a subterminal series of straighter lunules and a narrow terminal black band. Underside much paler, the apical area brownish. Forewing: a discal, transverse, slender, chestnut-brown lunular line bordered outwardly by a series of dark spots, and an inner and an outer transverse subterminal series of small dentate spots. Hindwing with a transverse discal series of lunules

outwardly margined with purple, followed by a series of dark spots, a postdiscal obscure pale lunular band and a subterminal series of dentate marks, often obscure.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Not common.

Habitat.—The Himalayas up to 5,000 feet; Sikkim and throughout Assam and Cachar.

472. **Cupha placida**, ♂ ♀.—Very similar to *C. erymanthis*, but on the upperside of the forewing the discal band is distinctly darker with more even margins, the spots on the band in interspaces 1 to 3 all of equal size and smaller, the apical yellow spots on the black area generally wanting. On the hindwing the outer subbasal line with its outer border of pale spots more clearly defined. Both wings at base are shaded with olive-brown. On the underside the markings are more heavily defined.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Not common.

Habitat.—South India.

Genus.—*CIRROCHROA*.

473. **Cirrochroa aoris**, ♂.—Upperside yellowish-brown. Forewing: a dusky transverse band at apex of cell, a discal transverse broken dark line, an obscure series of postdiscal dusky spots followed by a transverse zigzag fine dark line, a subterminal broader waved line and a terminal narrow dark border widening at the apex of the wing. Hindwing: a dark transverse discal line followed by a series of black spots, interspace 4 being generally without a spot; a postdiscal transverse highly



FIG. 378.—*CIRROCHROA AORIS*, ♂.

lunular dark line followed by an inner and an outer subterminal line, the inner line lunular; a white subcostal spot bordering the discal transverse line outwardly and the ground colour of the apical area almost white. Underside very pale brown, the outer half of the wings glossed with pale purple; the transverse markings much as on the upperside but fainter. ♀ Upperside brown with a white discal band crossing both wings, otherwise the markings similar to those in the ♂ but on the forewing is a transverse line of broad white lunules before the terminal border. Underside paler, the discal band as in the ♂ but lilac-white.

In dry-season specimens of the ♂ the transverse dark markings on both wings more obsolete and on the forewing the apical and terminal markings only are clearly defined; the markings also of the hindwing broken and ill-defined. Underside paler than in wet-season forms. The ♀ on the upperside tawny yellow, the discal band and outer transverse lunular markings not white but of the same shade as the ground-colour. Underside pale yellow.

Expanse.— $3\frac{1}{2}$ " to $3\frac{3}{4}$ ".

Very common.

Habitat.—Sikhim, Bhutan and throughout the hills of Assam and Cachar.



FIG. 378a.—*CIRROCHROA AORIS*, ♀.

474. ***Cirrochroa mithila***, ♂ ♀.—Very similar to *C. aoris*, but with the apex of the forewing rounded, the basal half of the wings darker than the terminal portion and the subterminal black zigzag line heavily marked. The ground-colour of the underside darker and more uniform yellow than in *C. aoris*, slightly suffused with purple; the forewing is without the white apical patch so conspicuous in *C. aoris*. In the ♀ the ground-colour is a richer, brighter yellow; the discal dark line on the hindwing straighter, ending on the dorsal margin closer to the tornus than it does in *C. aoris*; the terminal lines very distinct and heavily marked.

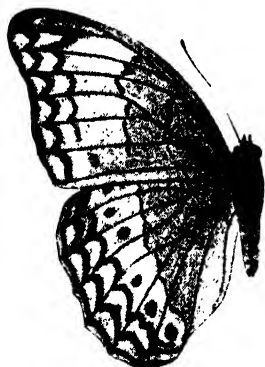


FIG. 379.—*CIRROCHROA MITHILA*, ♂.

Expanse.— $2\frac{1}{2}$ " to 3".

Common.

Habitat.—Behar, Sikhim, Assam.

475. ***Cirrochroa thais***, ♂.—Upperside rich reddish-yellow. Forewing: a transverse narrow black line at apex of cell, a series of three obliquely placed black spots beyond, one at base of interspace 3 and short transverse fine lines in interspaces



FIG. 380.—*CIRROCHROA*
THAIS, ♂.

1 and 2; a postdiscal transverse series of obscure lunules in interspaces 1, 5 and 6; a subterminal transverse lunular band followed by a series of obscure lunules of the ground-colour; the apex and terminal border broadly black. Hindwing: markings similar to those in *C. mithila*, the subcostal white patch on the outer margin of the discal line more prominent. Underside darker, overlaid with purple. A prominent, transverse, white discal band across both wings, obscurely defined on both margins by dark lines, followed by faint lunular markings; the black spots of the transverse discal series on the hindwing very small. ♀ Upperside similar, the black markings broader. The markings of the underside also similar to those in the ♂, the ground-colour paler, not suffused with purple.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—Southern India.

Genus.—ARGYNNIS.

476. *Argynnis aglaia*, ♂ ♀.—Upperside tawny yellow with black markings. Forewing: a medial loop-like mark and a short transverse pre-apical broad line in cell, a line at apex of cell and a short broad irregular line joining it beyond; a zigzag discal series of spots; transverse postdiscal and subterminal series of spots with a short subcostal patch in interspace 6 and a terminal narrow band. Hindwing: a broad line at apex of cell, a discal narrow band outwardly angulated, a series of five postdiscal spots, the subterminal series of spots and terminal narrow band as on forewing. Underside: Forewing: ground-colour fading to pale yellow on costal margin and apex, the black marking as on upperside, those on apex and along the termen greenish. Hindwing: the basal two-thirds and the terminal margin suffused with green. On the green area two basal and three medial silvery spots, the middle spot of the latter in apex of cell; a discal transverse band of silvery spots and a transverse series of subterminal silvery lunules. ♀ similar. Upperside: ground-colour paler, the dusting of dark scales at the bases of the wings more extended, the terminal black band of both wings broader than in the ♂. Underside as in the ♂, the markings broader, the apical area of the forewing marked with green and the subterminal spots anteriorly conspicuously silvery.

Expanse.— $2\frac{1}{2}$ " to 3".

Common.

Habitat.—Chitral, Kashmir. At 15,000 feet.

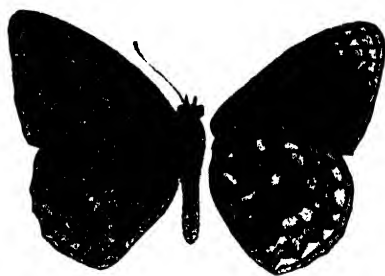


FIG. 381.—*ARGYNNIS AGLAIA*, ♂.

477. **Argynnis jainadeva**, ♂ ♀.—Very similar to *A. aglaia*, but generally to be distinguished from that form by the more rounded inner margins of the subterminal series of spots on both wings of the upperside. On the underside by the very prominent transverse series of silvery-centred dark spots bordering the discal row of silvery spots on the hindwing.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Habitat.—The Himalayas, Chitral to Kumaun above 9,000 feet.

478. **Argynnis kamala**, ♂ ♀.—Upperside yellow with black spots and markings, the base of the wings darkened by a dusting of dark green scales which on the hindwing extend across the discal area to the subterminal row of transverse black spots. Forewing: three transverse bars in cell and a bar beyond, the medial area with two series of irregular transverse spots with a short bar between them from costa to vein 6; a subterminal transverse series of spots and a terminal black border traversed by a fine line of the yellow ground-colour. Hindwing: a short transverse bar near apex of cell, a discal line of transverse spots followed by a post-discal series of rounded spots, a subterminal series of lunular spots and a narrow terminal band traversed by an interrupted fine yellow line as on the forewing. Underside: Forewing: the black markings in the cell and discal area as on upperside; apex of wing dusted with dark green scales bearing two lines of two or more silvery spots each; the subterminal series of black spots in interspaces 1 to 4 separated, the terminal border pale with an inner and an outer transverse slender line. Hindwing: metallic green with silvery markings as follows:—A broad basal transverse band followed by a series of three spots from costa to lower apex of cell, margined inwardly by a fine black line; beyond these a series of small irregular discal spots and a postdiscal complete series of larger spots bordered outwardly by a fine black line; finally a subterminal transverse series of spots bordered outwardly by a slender black line. The area between the postdiscal and subterminal series of silvery spots dark yellowish-green bearing an obscure series of small dark spots, those in interspaces 2 to 4 centred with minute silvery spots. The terminal border pale yellowish-green, the margin with a slender dark line.

Expanse.— $2\frac{1}{2}$ " to $2\frac{3}{4}$ ".

Common.

Habitat.—Western Himalayas, Kashmir, Kumaun. Flies in July to October at elevations of from 6,000 to 10,000 feet.

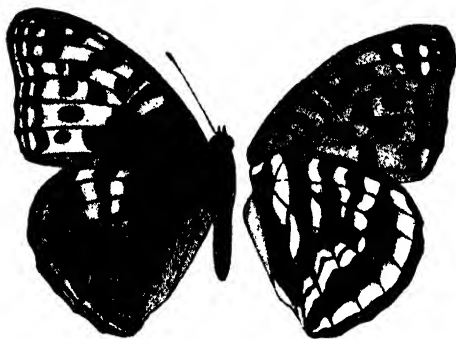


FIG. 382.—*ARGYNNIS KAMALA*, ♂.

479. **Argynnis childreni**, ♂ ♀.—Similar to *A. kamala* on both upper and undersides but a much larger insect. Upperside: dark orange. Forewing: three



FIG. 383.—ARGYNNIS CHILDRENI.

transverse black lines in cell, the outermost the broadest and not reaching the lower margin of the cell; the terminal area with a complete transverse series of postdiscal and subterminal round black spots, irregular in size. On the hindwing a complete series of subterminal large black spots well separated; the terminal area up to vein 5 or beyond and extended along the dorsum dark blue, the terminal

lunules up to about vein 5 light blue, otherwise the remaining black markings very similar to those in *A. kamala*. Underside: Forewing: pinkish-red, the apex green with a pre-apical silvery loop-like mark across interspaces 5 to 7; the green apical area bordered inwardly by yellow; the black markings as on the upperside except on the green apical area. Hindwing: metallic green with transverse silvery lines some of which are margined by black lines; the tornus with a black spot and some bluish spots above it.

Expanse.—3" to 3½".

Not uncommon.

Habitat.—Sikhim, Nepal, Hills of Assam. The race *sakontala*, from the Western Himalayas is almost identical but smaller than *childreni* and with the markings narrower.

480. **Argynnis rudra**, ♂ ♀.—Upperside: ground-colour and black markings very similar to the forms described above, the terminal border of both wing bearing a transverse series of cone-shaped spots at the apices of the veins. Underside: the black markings as in *A. kamala* except that all the spots of the terminal area very faint, the apical area greenish with the black markings of the upperside faintly

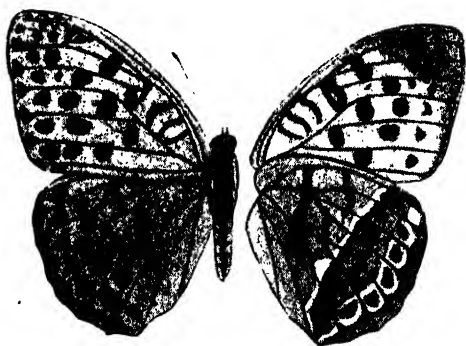


FIG. 384.—ARGYNNIS RUDRA, ♂.

showing through; no apical white spots which are so conspicuous in *A. kamala*. Hindwing: basal half light green crossed by a subbasal chestnut-red band followed by a slender line of the same colour; a transverse discal narrow silvery line widening to form a spot in interspace 2, followed by a transverse series of reddish-brown patches; postdiscal and subterminal transverse series of obscure green spots the latter on a silvery background; the terminal border green. The fringe of both wings yellow. ♀ slightly larger, the basal area of the wings on the upperside olive brown.

Expanse.— $2\frac{3}{4}$ " to 3".

Uncommon.

Habitat.—Assam, the Khasia Hills. Flies in May-August.

481. ***Argynnis hyperbius***, ♀. —Upperside orange-yellow with black markings as follows:—Forewing: the cell with a basal spot, two transverse streaks forming a loop, a broad streak beyond and another at apex of cell; a zigzag discal series of spots, a small spot at base of interspace 1; a series of spots in the postdiscal area, those in interspaces 1 and 4 very small, an inner complete series of subterminal spots and an outer subterminal line; finally a terminal fine line. Hindwing: a streak across middle of cell and a small spot at its apex; a short streak near base of interspace 7; a discal transverse series of spots, a postdiscal series of five spots in interspaces 2 to 6, a subterminal series of spots followed by a narrow band, bordered posteriorly by blue lunules and anteriorly by lunules of the ground-colour; the terminal margin with a fine line. Underside. Forewing: the black markings as on the upperside except at apex of the wing which is yellowish-green bearing an incomplete circle of silvery spots and two minute white spots in the centre of the latter. Basal half of wing pinkish-red turning to orange-red beyond. Hindwing variegated with silvery and olive brown spots and markings some of which are margined on one or both sides by jet-black lines; the medial silvery markings form a discal series and this is followed by a curved postdiscal series of five olive-brown round spots with minute white centres, the olive-brown patch in cell also with a minute white central spot; the terminal border with a complete series of broad olive-brown markings followed by a series of fine white lunules, a slender black line widening at the veins and a narrow terminal black line.

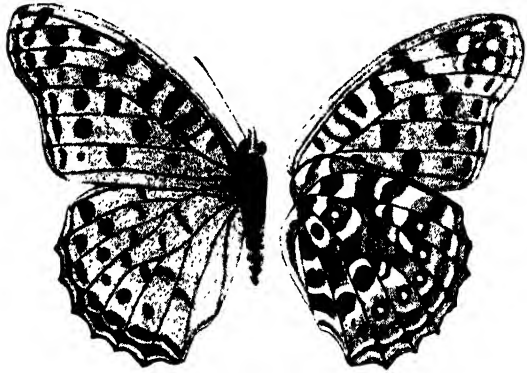


FIG. 385.—*ARGYNNIS HYPERBIUS*, ♂.

♀. Upperside: the black markings as in the ♂, the apical half of the forewing and terminal border posteriorly of the hindwing purple. Forewing: a conspicuous

broad preapical white band and some purplish-white spots beyond, an inner and an outer transverse series of slender purplish-white lunules. Hindwing as in the ♂, the purple lunules of the terminal border nearly reaching the apex of the wing. Underside: Forewing: the black spots and ground-colour on basal half of the wing as in the ♂, the white band as on the upperside bordered inwardly by a black band formed of large spots; beyond the white band the apex is olive-brown, the circle of silvery spots and central minute dots as in the ♂. Hindwing as in the ♂, the markings darker and broader.



FIG. 385a.—*ARGYNNIS*
HYPERBIUS, ♀.

Expanse.— $3\frac{1}{4}$ " to $3\frac{1}{2}$ ". Very common.

Habitat.—The Himalayas, Sikhim, Oudh, Agra, Bengal, Assam, Cachar and Sylhet.

The race *castetsi*, distributed throughout Southern India and the Nilgiri Hills closely resembles the typical form but is smaller.

482. *Argynnis lathonia*, ♂ ♀.—Upperside dark yellow with black markings, the base of the wings shaded with olive-brown, the markings very similar to the forms described above; the postdiscal and subterminal transverse series of spots complete. Underside: Forewing: the ground-colour pale yellow, the black markings as on the upperside except the apical area which has an inwardly oblique chestnut-red band from the apex, this colour being extended along the veins to the terminal margin; on the inside of the chestnut-red band is a silvery spot in interspace 6, inwardly margined with chestnut-red, the postdiscal series of spots centred with minute silvery spots and the apical four spots of the subterminal series silvery. Hindwing with large silvery spots separated by chestnut-red bands; a post-discal series of dark spots centred with small silvery spots placed on a chestnut-red transverse band; the terminal margin with two very fine chestnut-red lines. ♀ similar; the black markings on the upperside broader, the anterior spots of the subterminal series on the forewing joining the inner terminal transverse line; the markings on the underside larger than those in the ♂.

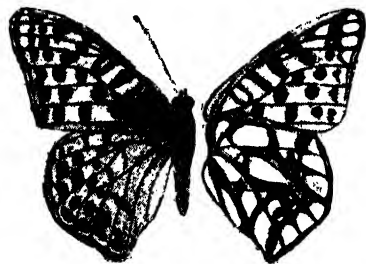


FIG. 386.—*ARGYNNIS*
LATHONIA, ♂.

Expanse.— $2\frac{1}{4}$ " to $2\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Chitral to Sikhim.

483. *Argynnis gemmata*, ♂.—Upperside: ground-colour varies from dark yellow to a rich reddish, the base of the wings dark brown; the usual black spots

and markings and the terminal margin on both wings narrowly black. Fringe long, yellow. Underside: bright yellow, the black markings as on the upperside but not so clearly defined; a short pre-apical chestnut-red band inwardly inclined, bordered on the inner side by one and on the outer side by four elongate silvery spots; the anterior two or three spots of the postdiscal series mounted on the red area and minutely centred with silvery white. Hindwing greenish-yellow and with silvery markings, the medial silvery spot very long, the terminal series of spots narrow elongate streaks produced to the terminal margin. ♀. On the upperside darker. On the forewing is a small white subcostal spot on the inner side of the postdiscal series of spots and a transverse series of small white spots between the subterminal and terminal black markings.



FIG. 387.—*ARGYNNIS GEMMATA*.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Common.

Habitat.—The Himalayas, Sikhim, Tibet. At high elevations.

484. *Argynnis clara*, ♂.—Similar to *A. gemmata*, but larger, the forewing more rounded; on the terminal black border of both wings the yellow subterminal spots distinct and the postdiscal series of black spots on the hindwing incomplete, generally wanting in interspaces 3 and 4. On the underside the apex of forewing shaded with green, one or two small pre-apical silvery spots and a subterminal series of silvery spots before a yellowish-green border. Hindwing green the terminal border yellowish-green as on the forewing; the silvery markings regularly placed, some spots and streaks at base of wing, a discal series of elongate spots, that in interspace 4 minute, and a subterminal series of inwardly pointed spots which are sometimes joined to the discal series by a very fine silvery or pale line.

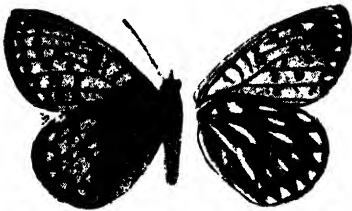


FIG. 388.—*ARGYNNIS CLARA*.

♀ Upperside darker the base of both wings or the wings entirely dark green, the black markings as in the ♂. On the underside the apex of the forewing more broadly shaded with green; the

hindwing a richer green than in the ♂, the silvery spots rather larger and more clearly margined with slender black lines.

Expanse.—2 inches.

Common.

Habitat.—North-West Himalayas.

In the race *manis* from the Chumbi Valley, east of Sikhim the sexes are more alike, the ♀ being very similar to the ♂. On the underside the terminal margin as well as the apex of the forewing shaded with green.

485. **Argynnis altissima**, ♂ ♀.—Upperside ground-colour rich yellow and with the usual black "Argynnis" spots and markings; base of wings dark brown.

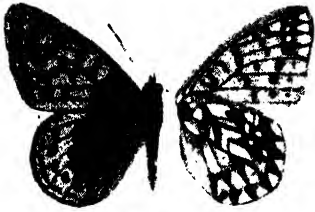


FIG. 389.—ARGYNNIS
ALTISSIMA.

Underside: Forewing slightly paler, a dark red, inwardly directed, short band from apex, bearing two or more minute silvery-blue spots; the band bordered on its inner side by a conspicuous silvery spot and on the outer side by a series of inwardly pointed silvery spots; the black markings as on the upperside. Hindwing with the usual silvery spots, the ground-colour interposed between them yellow and dark red.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ". Common.

Habitat.—Sikhim and Bhutan at high elevations.

The race *mackinmoni* found in the Gonass Pass, Western Himalayas at 15,000 feet closely resembles *altissima*.

486. **Argynnis pales**, ♂ ♀.—Smaller and paler than *A. altissima*, the markings of the upperside similar. Underside: Forewing: the black markings as on the upperside but dusky, small and very obscure; the apical area and middle of terminal border with pale yellow markings, a short dark red band from apex, the terminal border with a series of pale yellow streaks in the interspaces. Hindwing mottled with pale yellow and reddish-brown; at base of wing a silvery-white spot or two, a subbasal silvery band outwardly curved, a discal transverse narrow line of silvery markings widening at the costa and a terminal transverse series of squarish silvery spots in the interspaces. Underside of hindwing variable as to the dark mottlings.

Expanse.— $1\frac{1}{2}$ inches.

Common.

Habitat.—The Himalayas, Kashmir and Kulu at elevations of from 11,000 to 13,000 feet; Native Sikhim on the Tibetan frontier at elevations of from 14-15,000 feet. Flies June to August.

Genus.—MELITÆA.

487. **Melitæa sindura**, ♂ ♀.—Upperside yellowish-brown, the black markings very similar to those of the *Argynnis* family; base of wings dark brown. Underside: Forewing paler, the costa greenish-yellow; the dark markings as on upperside but very indistinct; the pre-apical area spotted with pale yellow followed by a dark yellow band and a series of subterminal lunular white spots. Hindwing: ground-colour pale yellow with dull silvery markings margined by fine black lines as follows:—A subbasal band of spots, a spot at apex of cell, a postdiscal curved and irregular series of spots and a subterminal lunular band of spots, the silvery spots on the basal area bordered on both sides by dark reddish-yellow. In the race

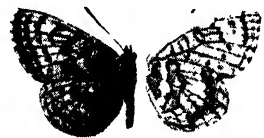


FIG. 390.—MELITÆA
SINDURA.
race sikhimensis.

sikhimensis the space between the postdiscal and subterminal silvery markings also dark reddish.

Expanse.— $1\frac{1}{4}$ inches.

Common.

Habitat.—The Himalayas, Sikhim, Tibet.

A form confined to high elevations in Kashmir, of the race *balbita*, resembles typical *sindura*, but is larger and the markings, specially on the underside, are proportionately much larger.

488. **Melitæa didyma**, ♂ ♀.—Upperside dark yellow. Forewing: costal margin black, cell with a small black spot at base followed by transverse black lines; a line beyond apex of cell, three black spots at base of interspace 1, a transverse discal series of black spots, a subcostal spot beyond followed by a subterminal lunular transverse series of spots and a narrow terminal black band. Hindwing: base and dorsal margin dusted with black, a subbasal black band, a discal transverse series of black spots, a subterminal lunular series of spots and terminal black band as on forewing. Underside: ground-colour yellow, the black markings as on the upperside but smaller; the apex of the wing pale yellow, the terminal black border replaced by a series of small black spots and a slender marginal black line. Hindwing pale yellowish white; a number of small black spots at base, a subbasal yellowish red band with a spot of the same colour in the middle of the cell, a discal transverse curved line of small black spots followed by a postdiscal yellowish-red band; a series of subterminal black spots and a slender marginal black line. Fringe of both wings white alternated with black.



FIG. 391.—MELITÆA
| DIDYMA.

Expanse.— $1\frac{1}{4}$ " to $1\frac{1}{2}$ ".

Common.

Habitat.—N. W. Frontier, Punjab, Chitral.

Genus.—BYBLIA.

489. **Byblia ilithyia**, ♂ ♀.—Upperside rich orange. Forewing: costa black except at apex of wing, the cell crossed by three black bands, the middle one only reaching the median vein, a black irregular discal band; a black patch on costa before apex of wing, a broad postdiscal transverse black band from dorsum to vein 5, and a terminal narrow band. Hindwing: a black patch at base, a series of transverse discal black spots, a broad postdiscal transverse black band and a narrow black terminal band. Underside: paler and duller orange. Forewing: the black markings as on



FIG. 392.—BYBLIA ILITHYIA, ♂.

upperside but those along the costal area margined by white lines, a pre-apical series of dull white spots, the terminal black border as on upperside but traversed by a broken white line. Hindwing: a subbasal and a discal transverse white band, both bordered inwardly by a series of black spots and outwardly by a black line; a post-discal transverse black band traversed by a series of paired white spots followed by a series of cone-shaped markings, of the ground-colour outwardly and white inwardly, the terminal black border traversed by white lunular markings.

♀ similar but paler, the black markings narrower. On the underside of the hindwing the white on the bands and spots replaced by pale yellow.

Expanse.—2" to 2½".

Habitat.—Central and Southern India.

Genus.—**ERGOLIS**.

490. **Ergolis ariadne**, ♂ ♀.—Terminal margin of wings, specially the forewing, highly scalloped. Upperside reddish-yellow the wings crossed by slender, highly waved, transverse dark brown lines, a small white subcostal spot before apex of forewing. Underside: browner; both wings with dark chestnut-brown markings and transverse bands of the same colour; the subterminal zigzag and terminal waved lines, dark brown. ♀ slightly paler in colour.

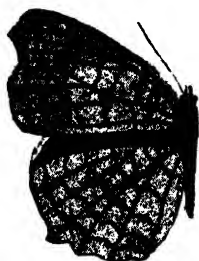


FIG. 393.—**ERGOLIS**
ARIADNE

Expanse.—2" to 2½".

Common.

Habitat.—Throughout continental India, Assam, Cachar.

491. **Ergolis merione**, ♂ ♀.—Upperside yellowish-brown, the transverse lines much as in *E. ariadne* but in pairs forming obscure bands. On the forewing there is in addition a series of obscure spots between the postdiscal and subterminal markings and a small white subcostal spot before the apex. Underside as in *ariadne*, but the transverse dark bands broader and more diffuse. ♀ similar, the transverse lines broader with a greater tendency to form bands. In dry-season specimens the ground-colour paler, the transverse lines more distinctly in pairs, forming bands.

Expanse.—2" to 2½".

Common.

Habitat.—Northern Continental India, the Himalayas, Simla to Sikkim, Bengal and throughout Assam; also S. India.

In the Southern India form, *taprobana*, the white subcostal spot on forewing is rarely present, the ground-colour darker on both sides, some of the markings of the underside obscured by very dark chestnut shading.

E. merione is easily distinguished from *ariadne*, by the more zigzag transverse black lines, by the addition of obscure spots between the postdiscal and subterminal markings and in the middle of the termen of the forewing being much less concave.

Genus.—PSEUDERGOLIS.

492. **Pseudergolis wedah**, ♂ ♀.—Upperside golden brown; both fore and hindwings marked alike with black transverse lines and spots. Two loop-like marks in the cell, discal, postdiscal and subterminal lines; between the two last a series of small spots in the interspaces. Fringe of wings white alternated with black. Underside brown slightly suffused with grey; the transverse lines, bands and series of small spots as on the upperside rich dark brown, not black; the subterminal line lunular and bordered on both sides by pale lilac, a small lilac patch on apex of forewing.

Expanse.—2" to 2 1/3".

Fairly common.

Habitat.—The Himalayas, Sikhim, Assam, Cachar.



FIG. 394.—PSEUDERGOLIS WEDAH.

Genus.—CALINAGA.

493. **Calinaga buddha**, ♂ ♀.—Upperside dull black with the following white markings:—Forewing: basal half of cell and a transverse spot near apex of cell; basal two-thirds of interspace 1 traversed by a dark streak, a diffuse spot at bases of interspaces 4 and 5, a discal transverse series of elongate spots and a postdiscal series of more rounded spots. Hindwing also with the following white markings:—The dorsal area, the basal half of interspace 1 and nearly the whole of the cell; spots at base of interspaces 4 to 7, an upper discal series of four elongate spots and a postdiscal series of rounder spots. Underside: the markings as on the upperside but larger. The ground-colour of the hindwing a yellowish-brown, the dorsal area tinged with yellow, the discal and postdiscal series of spots more in number than on the upperside. The thorax anteriorly and at the sides crimson.

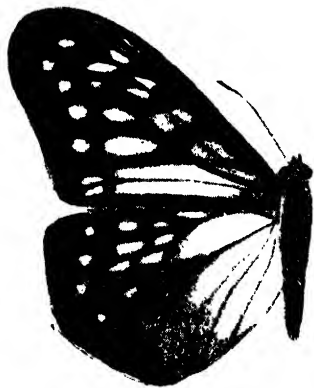


FIG. 395.—CALINAGA BUDDHA.

Expanse.—3 3/4" to 4".

Uncommon.

Habitat.—N. W. Himalayas, Dalhousie, Kulu.

The form *gautama* found in Sikhim has the white markings smaller and more restricted; the ground-colour of the underside of the hindwing brown, not yellowish. In the form *brahma* found in Manipur and the Naga Hills the markings on the upperside of both wings not white but creamy-white. The thorax entirely crimson. Fairly common at Phesima in the Naga Hills during May.

Genus.—PAREBA.

494. **Pareba vesta**, ♂.—Variable in the ground-colour and markings. Upperside yellow. Forewing: the veins along the costal margin, apical area and

terminal border black; a short bar across apex of cell, the apex and terminal border black; the last bearing a series of spots of the ground-colour. Hindwing:



FIG. 396. —*PARÉBA VESTA*.

the apical portion of the veins, subterminal zigzag line and terminal line, black; between the two latter a series of spots of the ground-colour. Underside paler. Forewing generally uniform. Hindwing with a pale yellow curved postdiscal broad band followed by a bright yellow lunular band margined on the inner side by a narrow black line and on the outer side by a zigzag black line and terminal pale lunules.

♀ paler, with similar but broader black markings. On the underside the black markings of the upperside showing through by transparency. In many specimens the ground-colour is dark yellow and there are additional black markings on the upperside.

Expanse.— $2\frac{1}{2}$ " to 3".

Very common.

Habitat.—The Himalayas and throughout the hills of Assam at fairly low elevations.

Genus.—*TELCHINIA*.

495. *Telchinia violæ*, ♂ ♀.—Upperside yellowish-red with the following black markings:—Forewing: a spot in middle of cell followed by an irregular larger spot at apex of cell, a discal series of spots, that in interspace 2 wanting, and the apex and termen narrowly black; the black edging to apex and termen produced inwards along the veins. Hindwing: a few small black spots at base and up to middle of cell, a subcostal spot, a discal series of obscure spots, a small postdiscal spot in interspaces 3 and 6; the terminal border broadly black medially traversed by a series of spots of the ground-colour, the black edging to this border produced inwardly in the interspaces. Underside paler, the black markings as on the upperside, the spots on the hindwing more numerous, larger and distinct, the spots of the terminal border very much larger and white. The thorax black spotted with yellow and white, the abdomen anteriorly black, posteriorly dark yellowish with narrow transverse black lines. ♀ similar, the ground-colour duller, the spots larger and the terminal band broader.



FIG. 397.—*TELCHINIA VIOLÆ*, ♂.

Expanse.—2" to $2\frac{1}{4}$ ".

Common

Habitat.—Darjeeling, Peninsular India, the Nilgiris.

Genus.—LIBYTHEA.

496. **Libythea lepita**, ♂ ♀.—Upperside dark brown. Forewing: an orange-yellow streak in cell, abruptly widening in apex of cell, a large square spot of the same colour beyond it on the disc in interspaces 2 and 3, a subcostal white spot and a pre-apical double spot, the lower portion orange yellow the upper portion white. Hindwing: uniform, with a postdiscal orange patch from near vein 2 to vein 6. Underside paler. Forewing: the markings as on upperside but the pre-apical double spot white; costal margin and apex of wing greyish. Hindwing more or less marked all over with grey scales and blotches of grey and dark brown.

Expanse.—2 inches.

Common.

Habitat.—The Himalayas, Sikkim, Assam.

The race *lepitoidea*, found in S. India has the tornus of the hindwing pointed, the markings almost similar.



FIG. 398.—LIBYTHEA LEPITA.



FIG. 399.—LIBYTHEA MYRRHA, ♂.

497. **Libythea myrrha**, ♂ ♀ Markings variable, similar to *L. lepita*, but the subcostal and pre-apical double spots on the forewing orange-yellow; the streak in cell along the median vein extending narrowly on each side of it and continued beyond as a large oval spot. On the hindwing the orange-yellow band extending from vein 1 to vein 6. Underside very similar to that of *L. lepita*.

Expanse.—2 inches.

Common.

Habitat.—The Himalayas, Sikkim, Assam, Cachar, Western and Southern India.

498. **Libythea rohini**, ♂ ♀.—Upperside dark brown, the bases of the wings slightly paler. Forewing: a transverse white spot at apex of cell, a large discal square white spot in interspace 2, subcostal and pre-apical spots white. Hindwing: a white subcostal spot and a medial dull white band. Underside: the white spots as on the upperside but larger and somewhat diffuse. On the hindwing the ground-colour pale lilac-white closely marked with transverse dark fine lines and shaded with dark brown patches; the white subcostal spot as on the upperside, the medial band broader but not clearly defined.

Expanse.—2" to 2½".

Uncommon.

Habitat.—The hills of Assam.



FIG. 400.—LIBYTHEA ROHINI, ♂.

NEMEOBIDÆ.

Mostly butterflies of small size, the wings variable in shape; the hindwing in some forms lobed or tailed at the tornus or tailed at apex of vein 4.

Genus.—DODONA.

499. **Dodona durga**, ♂ ♀.—Upperside brown with yellow markings as follows:—Forewing: a transverse band across middle of cell and continued below to vein 1; a band at apex of cell with a round spot below it in interspace 2 and a transverse spot in interspace 1; a band of small spots beyond apex of cell, three



FIG. 401.—DODONA
DURGA, ♂.

discal spots in interspaces 3, 6 and 8, followed by an irregular transverse inner subterminal series of small spots and an outer subterminal series of linear spots. Hindwing: a small spot in interspace 7, two spots beyond apex of cell with small streaks below them to near the tornus, an inner and an outer transverse series of lunular spots, all yellow. On the apical area are two black spots, a black spot just above the tornus and another on the tornal lobe. Underside: ground-colour paler as also the markings which are yellowish-white.

Forewing: the markings much as on the upperside but broader, the lower spots of the postdiscal and subterminal series bright yellow with some obscure dark spots bordering them. Hindwing: narrow streaks on the dorsal area, a band from costa crossing the middle of the cell, another transverse band beyond it, two upper discal bands, an inner subterminal band from apex of wing to tornus where its colour is bright yellow; two apical black spots on this band, and another in interspace 1; the tornal lobe with two black spots; lastly a subterminal pale line from above the tornal lobe to vein 4. ♀ similar, larger; the markings paler and broader.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Uncommon.

Habitat.—Kashmir to Nepal.

500. **Dodona dipœa**, ♀ ♂.—Resembles *D. durga*. Upperside dark brown with the following pale yellow markings:—Forewing: a narrow band across middle of cell continued below in interspace 1, a band beyond apex of cell from costa, formed of spots, with a spot below in interspace 2; a transverse discal series of spots and a postdiscal series of spots, of which the spots in interspaces 4 and 5 are inwardly placed out of line; finally a very obscure subterminal row of linear spots. Hindwing: very obscure discal, postdiscal and subterminal series of spots, dull brown rather than yellowish; the medial subcostal spot pale, the black spots on the apex and on the lobe as in *D. durga*; the lobe in *dipœa* larger, broader. Underside: yellowish-brown, the markings much as on the upperside but white, much broader and clearer. On the hindwing the terminal transverse bands pale

brown and a dark grey patch above the tornal lobe, otherwise the white markings somewhat as in *D. durga*.

Expanse.— $1\frac{3}{4}$ ".

Uncommon.

Habitat.—The Himalayas, Sikhim, Bhutan, Assam, Naga Hills.

501. ***Dodona eugenes***, ♂ ♀.—Very similar to *D. dipæa*, but on the underside of the hindwing the white markings considerably broader; the tornal lobe has in addition a short black, white-edged tail. ♀ much paler the markings broader than those in the ♂; the terminal border of both wings broadly yellow.

Expanse.— $1\frac{3}{4}$ " to 2".

Fairly common.

Habitat.—The Himalayas, Bhutan, the hills of Assam.



FIG. 402.—*DODONA EUGENES*, ♂.
(Underside.)

502. ***Dodona egeon***, ♂ ♀.—Upperside: Forewing black, the basal area to middle of cell reddish, the remainder of the markings orange-yellow except on the apical area where the spots become paler and are pure white at the apex. A broad orange-yellow subbasal transverse band; a discal series of large spots, the lowest of the series joined to the subbasal band; a postdiscal series of spots, the upper spots of which are paler yellow and two pre-apical white dots. Hindwing with orange-yellow transverse bands all meeting just above the tornal lobe; the tornal lobe black inwardly bordered by a white line and a slender black tail. Underside: Forewing: the markings as on the upperside but pure white with the addition of white markings at the extreme base of the wing and

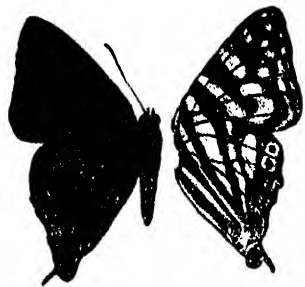


FIG. 403.—*DODONA EGEON*, ♂.

a series of very slender transverse subterminal lines. Hindwing very similar to the underside of *D. eugenes*. The ground-colour of both wings dark chestnut-red. Body beneath, white. ♀ paler, the markings broader.

Expanse.— $1\frac{3}{4}$ " to 2".

Not common.

Habitat.—The Himalayas, Bhutan, Assam, the Khasia and Naga Hills.

503. ***Dodona ouida***, ♂.—The sexes very different. Upperside: Forewing yellowish-brown; a yellow band from subcostal vein across the cell to vein 1, followed by a broader yellow oblique band from middle of costal margin to above the tornus; a subterminal narrow yellow band and the apex with two minute white dots. Hindwing: an obscure medial short yellow band followed by a postdiscal broader and an inner and an outer subterminal yellow bands; the tornal lobe dark



FIG. 404.—*DODONA OUIDA*, ♂.

chestnut-red margined by a slender white line. Tornal lobe without a tail. Underside yellowish-red, the bands as on the upperside but ill-defined. Forewing: the bands terminate in a white spot on the costal area, the subterminal band terminating in two white spots on the costa, the minute white pre-apical spots as on the upperside. Hindwing: the transverse bands obscure and of a pale purplish colour; the subbasal band terminating on the costal margin in a white spot, the discal band also terminating



FIG. 404a.—*DODONA OUIDA*, ♀.

on the costa in a white spot inwardly bordered by a black spot; two subapical black spots on the subterminal pale band encircled with white; the tornal lobe black bordered by white lines, a grey tornal patch above the lobe extended along the dorsum. ♀. Upperside brown. Forewing with a broad oblique white band from middle of costa to near the tornus; a subterminal pale lunular transverse line terminating in two white spots and two subapical white dots. Hindwing: an obscure pale discal band, a subterminal pale broad band traversed by a narrow dark brown band terminating in two subapical black spots and a terminal slender dark line. Tornal lobe very dark brown margined by white. Underside similar to that in the ♂, the white oblique band and pre-apical dots of the forewing as on upperside.

Expanse.— $1\frac{1}{2}$ " to 2".

♂ Common.

♀ Scarcer.

Habitat.—The Himalayas, Bhutan and throughout Assam and Cachar.

504. ***Dodona adonira***, ♂ ♀.—Upperside very dark brown, the wings crossed by dark orange bands. Hindwing with two black lobes margined outwardly by a fine white line; the fringe on both fore and hindwings yellowish-white in the ♀, black in the ♂. Underside yellow, the tornal area of hindwing dark orange bearing a few small black markings; wings crossed by black lines converging on the tornus of the hindwing.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Uncommon.

Habitat.—Nepal, Sikhim, Assam, the Khasia and Naga Hills.



FIG. 405.—*DODONA ADONIRA*, ♂.



FIG. 406.—*DODONA LONGICAUDATA*, ♂.

505. ***Dodona longicaudata***, ♂.—Upperside brown with white markings. Forewing: a broad white transverse medial band from the subcostal vein to dorsum and continued across the hindwing; one or two anterior discal spots, a postdiscal and subterminal transverse series of spots. Hindwing: a very obscure inner subterminal transverse pale line and an outer series of slender white lunules; the lobe black margined by a white line; a fairly long tail on the upperside of the lobe, black, slenderly

margined with white. Underside: Forewing: the white markings as on the upper-side but broader and in addition a basal and subbasal transverse bar. Hindwing: the medial white band broader, white bands from costal margin at base and similar lines from base along the dorsal area all converging above the tornus; the terminal border with an inner and an outer transverse series of fine white lines, inwardly bordered posteriorly by some dark spots and an orange-yellow band; the tornal lobe and tail as on upperside.

Expanse.— $1\frac{3}{4}$ ".

Very rare.

Habitat.—The Khasia Hills in Assam; the North Cachar Hills and Naga Hills.

Genus.—**ABISARA.**

506. **Abisara fylla**, ♂.—Upperside dark brown. Forewing: a cream-coloured band of even width from middle of costa to tornus; a subterminal transverse very obscure pale line ending anteriorly in a white dot and two subapical white dots. Hindwing: postdiscal and subterminal obscure pale transverse bands, the latter bearing a series of oval black spots, each with a white dot on the outer margin. Underside paler, the markings as on upperside. ♀ similar, rather larger; the oblique band on the forewing pure white.

Expanse.—2" to $2\frac{1}{2}$ ".

Common.

Habitat.—The Himalayas, Sikkim, throughout the hills of Assam and Cachar.



FIG. 407.—**ABISARA FYLLA**, ♂.



FIG. 408.—**ABISARA NEOPHRON**, ♂.

507. **Abisara neophron**, ♂ ♀.—Upperside brown. Forewing with a broad oblique white band from middle of costa to near apex of vein 1, narrowing posteriorly; a postdiscal, ill-defined narrow pale dusky-white band from costa to tornal angle; an inner and an outer subterminal slender pale line on the posterior half of the wing divided by a dark fine line. Hindwing: a postdiscal, ill-defined transverse curved band paler than the ground-colour; a subterminal series of oval spots bordered on both sides by slender white lunules, the two subapical spots jet-black, very conspicuous and large, no oval spot in interspace 3; an inner and an outer slender dark brown line; the tail broadly tipped with white. Underside similar, the ground-colour paler.

Expanse.—2" to $2\frac{1}{4}$ ".

Fairly common.

Habitat.—Nepal, Sikkim, Bhutan, the hills of Assam and Cachar.

508. **Abisara chela**, ♂ ♀.—Very similar to *A. neophron*, but smaller. Upperside: Forewing: the discal white band shorter, not quite reaching vein 1; the postdiscal pale band ending in a minute white subcostal spot. Hindwing: the

subterminal white lines bordered inwardly in interspaces 1 to 3 by much darker brown than in *A. neophron*. The tail at apex of vein 4, as in *A. neophron*, but shorter. On the underside the postdiscal band on the forewing broader and more clearly defined; the postdiscal area of the hindwing broadly lilac grey.

Expanse.— $1\frac{3}{4}$ " to 2".

Uncommon.

Habitat.—Sikhim, the hills of Assam.

509. **Abisara echerius**, ♂.—Termen of hindwing sharply produced at apex of vein 4. Upperside maroon-brown slightly glossed with blue. Forewing: discal and postdiscal very obscure transverse bands slightly paler than the ground-colour. Hindwing, uniform; two small black spots near apex of interspace 1 and two larger black sub-apical spots; these spots outwardly bordered slenderly with white. Underside lighter brown. Forewing: discal, postdiscal and subterminal transverse pale bands. Hindwing: a discal narrow transverse pale band, the subterminal spots as on the upperside but bordered both outwardly and inwardly by an obscure pale lunular line. ♀ paler than the ♂, the markings similar; the discal band on the underside of forewing broader and often nearly white, particularly in the dry-season form.



FIG. 409.—ABISARA
ECHERIUS, ♂.
(Underside.)

A rather variable insect.

Expanse.— $1\frac{3}{4}$ " to 2".

Common.

Habitat.—The Himalayas, Nepal, Bhutan, Bengal, Southern India.

Genus.—TAXILA.

510. **Taxila fasciata**, ♂.—Upperside dark red-brown. Forewing: apical area paler and with a preapical obscure broad greyish band. Hindwing uniform, without markings. Underside brighter yellowish-red; the grey band on the forewing as on the upperside but more clearly defined and inwardly bordered with brown. Both wings with numerous black spots outwardly bordered with grey and silvery-blue; subterminal series of transverse linear grey spots margined on both sides by brown and a terminal slender dark line. ♀ similar, the preapical bar broader and the markings of the underside showing through faintly on the upperside. Underside bright yellowish-red; the spots of both wings as in the ♂ but smaller, of a rich red, outwardly bordered with silvery grey.



FIG. 410.—TAXILA
FASCIATA, ♂.
(Underside.)

Expanse.—2 inches.

Rare.

Habitat.—Cachar, the foot of the Lushai Hills and Manipur border. Specimens were taken in May.

Genus.—ZEMEROS.

511. **Zemerus flegyas**, ♂ ♀.—Upperside dark reddish-brown; the wings crossed by four series of minute white spots, each spot bordered inwardly by an elongate black spot; a terminal fine black line; the fringe alternately black and white. Underside yellowish-brown, the white black-bordered spots as on the upperside but larger and more clearly defined. In dry-season forms the ground-colour is darker, the spots smaller. On the forewing the postdiscal series of spots in interspaces 6 and 8 very large.

Expanse.— $1\frac{1}{2}$ " to $1\frac{3}{4}$ ".

Very common.

Habitat.—The Himalayas, Sikh'in, Bhutan and throughout Assam and Cachar.



FIG. 411.—ZEMEROS FLEGYAS, ♂.

Genus.—STIBOGES.

512. **Stiboges nymphidia**, ♂.—Upperside white; the costal border broadly of the forewing and the terminal third of both wings black, the inner margin of the black area very irregular. Forewing with subterminal and terminal transverse series of white spots, the anterior two of the subterminal series being the largest. Hindwing with a subterminal waved pale line, sometimes white where it crosses the veins; and a terminal series of white lunules. The fringe white alternated with black. Underside very similar. ♀ similar; the black area of the wings narrower.



FIG. 412.—STIBOGES NYMPHIDIA, ♂.

Expanse.— $1\frac{1}{2}$ inches.

Rare.

Habitat.—Bhutan, Assam.

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